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THE ORTHOPÆDIC TREATMENT OF FRACTURES AND DISLOCATIONS OF THE SPINE.[1]

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AMONG the varied and difficult problems which surround the management of injuries involving the spinal column, there is one problem which is common to them all.

Whether fracture or dislocation, fracture with or without cord involvement, fracture with or without displacement, they all demand efficient fixation. And efficient fixation means that the vertebral column and the head and the pelvis be put at rest—rest which is enforced, uninterrupted and prolonged until Nature has effected her repairs.

It is something to know of a splint which fulfils these conditions; one which is applicable whether the lesion be in the cervical or in the lumbar vertebræ or in the dorsal region between them. Such a splint is found in Thomas's double frame with an attached headpiece. It is, of course, well known, but is not yet in common use. The frame can be made by any blacksmith and the padding by any saddler. It requires only one measurement, namely from the nipple line to the external malleolus. With this information any professional splintmaker should be able to supply the desired article in less than eight hours in an emergency. That no professional splintmaker of whom I know, would produce the desired article on the formula "Thomas's double frame with headpiece forty-four inches," without my sitting on his doorstep while he did it, is a misfortune we will labour under until we can get together and standardize our splints, their specifications and nomenclature.

The specifications of the splint are as follows: The stems are formed of two iron bars twenty-five by six millimetres (one by one-quarter inch) for adult frames, as long as the distance from the nipple to a point four inches above the heels. These stems are fixed by cross metal bands twenty-five by three

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on August 26, 1926.

millimetres (one by one-eighth inch) at two points, one at the top, which encircles the chest, the other at the pelvis. Below at the ankles they are connected by a stout metal rod nine millimetres (three-eighths of an inch) round. Above the pelvis the stems should be spaced apart, only a little wider than the distance between the posterior superior iliac spines. It is a common mistake to space them too widely separated. Below this they diverge at an angle of 10° from one another. The headpiece is fashioned of eighteen by four and a half millimetre (three-quarters by three-sixteenths of an inch) iron which is welded on to the main stems. The headpiece is suitably padded. A firm cushion ten centimetres (four inches) thick the width of the trunk should reach from above the upper border of the frame and extend down each leg. A horse shoe shaped piece is removed at the buttocks and extra thickening placed under the knees. This cushion, covered with basle or oil cloth, is fastened to the frame with tapes.

The patient is placed on the splint with the buttocks on either side of the horse shoe shaped opening which has been left for nursing purposes. The wings of the splint should then be moulded round the patient's chest and pelvis, care being taken to turn them up acutely enough from the back pad to prevent movements of the body. If there be any wound on the posterior surface which requires dressing, the pad can be shaped accordingly to allow of access. Once placed on this, the patient should never be turned for nursing purposes or the spine will sag laterally.

Place a block between the ankles to avoid pressure on the heels, increasing the height of the block when necessary to insert a flat bed pan. In this raised position all necessary washing of the buttocks can be done.

The patient is never taken from the splint, nor are the bandages removed for any purpose; only the exposed skin is washed. Untreated or badly treated fractures of the spine all tend to develope sooner or later to deformity of forward flexion or kyphosis, with or without scoliosis, just as a badly treated Pott's fracture of the ankle produces eversion deformity of the foot. A well treated Pott's fracture is put up in sharp inversion of the foot; it is overcorrected in anticipation of the deformity which is likely to ensue. So in spinal fractures we should adopt the same principle of intelligent anticipation and put the spine up in slight but definite dorsiflexion. The dorsiflexion can easily be imparted to the frame.

This frame and this dorsiflexion I regard as the backbone of treatment of all grave and doubtful injuries of the spinal column. Let us adopt it and more patients with grave injuries would recover and the less severely injured would be spared the disabling kyphosis which renders their backs mechanically weak when they begin to get about.

Next for consideration in the fixation problem comes the question of plaster of Paris. Nicely used, plaster of Paris is undoubtedly a great boon. Applied by the method of Calot, it will give perfect fixation of head, spine and pelvis. Calot's method calls for suspension of the patient and is applicable only when this is possible and practicable. For fuller details see his "Indispensable Orthopædics." The head is suspended by a cotton sling which may be incorporated in the jacket, if a headpiece is to be used. Over a singlet and cotton wool, a plaster bandage is first rolled. Then large vertical pieces of muslin, four layers thick, previously fashioned to fit the front and back, are placed in position and secured by turns of a second bandage. A collar, coming as high as the occiput behind and the chin in front, is applied in the same way. Particular attention is paid to moulding the plaster over the iliac crests before it sets. As it dries a large window may be cut out in front, by removing a section from the sternum to the *symphysis pubis*.

A plaster of high efficiency may be applied during recumbency by the following method. It means the sacrifice of the canvas of an ordinary canvas stretcher. The patient is laid face downwards on the stretcher. Slits are made at intervals along the sides of the patient's trunk and neck. Starting at the pelvis the plaster bandage is built upwards, passing through the slits and enclosing the supporting strips of canvas. The necessary dorsiflexion may be secured in both the Calot and the recumbent methods.

After reduction of dislocation and fractures of cervical vertebræ the head and neck must be fixed at once in hyperextension. The most efficient means of doing this is by plaster of Paris, applied so as to fit closely up to the jaw and the mastoid processes and including the upper part of the trunk. This fixation should be maintained for at least six months. If we remove the restraint before this, the callous may become exuberant and by pressure cause myelitis. This has been known to occur twelve months after the injury.

There remains something of a splintage problem in the care of a patient with a very grave injury—a compound fracture, a gunshot wound, a condition in which laminectomy may have to be or has been performed. A splint fixing the patient prone on his belly with the spine uppermost and not subjected to direct splint pressure would be an advantage.

I do not know why we take it so much for granted that a person who is ill, must lie supine on his back. There is no physiological reason why we should not take our rest prone on our bellies. All the other animals, including our evolutionary ancestors back to the lizards, take their rest belly down. In fact, I think a good case might be made out for there being a functional advantage in this posture. Watch a man utterly exhausted at the end of a gruelling race; he flings himself face downwards, there to regain his strength. This healthy man in a moment of profound stress has done the natural thing. It is not illogical that in the exhaus-

tion of disease or the stress of injury, relief might be found in the adoption of the same posture.

In any case I can assure you that, in spite of the raised eyebrows of nurses and the scared looks of the patient this posture has already proved itself in half a dozen of my cases to be entirely practical. Patients soon get used to it, then to like it and the problems of nursing are facilitated rather than hindered.

With some diffidence I suggest that a splint which I originally devised for the early treatment of all-embracing infantile paralysis, may be adapted for use in these grave spinal injuries.

The frame is made of gas pipe after the manner of a Bradford frame. It is shaped to correspond to a generous outline of the body when spread-eagled on the ground. This frame is filled in with canvas suspended by cords lacing through eyelets at the margin of the canvas which has been cut to fit the frame. At the level of the arms two supports thirty-five centimetres (fourteen inches) high and at the level of the ankles two similar supports twenty-five centimetres (ten inches) high are placed so as to raise the frame off the bed and allow the feet to maintain their proper right angled position in a downward direction. A canvas door is placed in the middle to allow excreta to be dealt with and smaller holes are made in the canvas to receive the patellæ.

In paralytic patients knee extension, hip extension, thigh abduction and foot dorsiflexion are maintained without effort pending the possible return of voluntary power. And in paralytic patients requiring catheters to be tied in or suprapubic cystostomy done, drainage of the bladder is carried out by gravity.

If it is necessary to fix the neck, a padded hole is arranged in the canvas to receive the face pointing downwards. Laminectomy may be performed in the splint, chloroform and ether anæsthesia being administered from below upwards. On the canvas itself an eiderdown quilt or mattress suitably shaped may be placed to make it softer and to prevent bed sores in paralytic patients.

When a bone is fractured the pain of the fracture provokes muscle spasm in the muscles surrounding the fracture. This is Nature's effort to effect rest to the fractured bone. But it is a sad thing that uncontrolled muscle spasm may do more harm than good by still further displacing the disrupted parts and setting up a vicious circle of more pain, more muscle spasm and more displacement. It is a pregnant fact that in the first year of the war 90% of patients with fractured femurs died; but in the second year of the war after Thomas's knee splints had been sent to the front line, only 10% of patients with fractured femurs died. Here is dramatic proof of the virtue of early splinting with a splint which is efficient to relieve muscle spasm.

My plea then becomes that there is urgent need of hurry in getting a good splint applied and by the same token there is urgent need of the most skilful first aid being given to patients with spinal injuries.

If the back is involved an efficient splint can be made by getting two slats of wood long enough to reach from the axilla to the lower leg. Next procure a double blanket, place the two slats of wood at the outer edges of the blanket and roll them from outside inwards until a rough trough, approximately fitted to contain the patient's trunk and lower limbs, is produced. Get the trough round the man's body with as little disturbance as possible and secure it with a series of straps or bandages.

If the neck is involved, a good splint may be made out of a newspaper and a triangular bandage. The whole newspaper can be folded and refolded. Its length when folded should be just long enough nearly to encircle the neck. The middle should be as wide as the distance from the top of the sternum to the chin with the head held up. The ends should taper a little to fit under the occiput. This is rolled in a triangular bandage. When put round the neck, the ends of the bandage cross behind and are brought round and tied in front. One would further urge that in one or both of these splints the patient should remain while undergoing X ray examination and in them he should stay until the permanent splints are fashioned and applied. In a modern hospital this should not be more than eight hours.

We are accustomed to think that a broken spine means paralysis and if a person can walk he has not fractured his spine. But when it is pointed out that paralysis may be a symptom in spinal injuries through violent flexions and hæmorrhage into the cord in cases in which there is not any fracture nor dislocation, and when it is pointed out that a very great number of people with recent fractures of their vertebræ are capable of walking about and perhaps even going on with their work for a while, then the extreme importance of good X ray work in these cases becomes manifest.

It may be laid down as an axiom that every patient with suspected fracture of the spine should be submitted to X ray examination with a powerful machine, stereoscopically if possible. A poor X ray plate is useless and may be dangerously misleading.

It is becoming increasingly common for good lateral X ray plates to disclose crush fractures of the bodies of the vertebræ, conditions of course which show no cord involvement and which run the risk of being missed, leading on to kyphosis and indefinite disablement unless discovered and properly treated.

Whichever method of fixation is decided upon in spinal fractures, it will be necessary to maintain this for about two months in recumbency. The time will be slightly less the higher up the spine and slightly more the lower down. A good guide to deciding whether repair sufficient to stand body weight has taken place, is afforded by deep thumb

pressure over the spines of the affected vertebræ. While these remain tender repair is not yet complete.

But even the repaired bone must be protected from unguarded weight bearing lest kyphosis develope.

This protection is gained by the use of Thomas's posterior spinal support for the back and by a Thomas's collar for the neck or by a combination of the two, if necessary. These should be worn continuously for about six months after the patient begins to move about.

There now remains something to say about the after care of spinal fracture patients. The crushed body or fractured transverse process requires little but the necessary fixation allowing time for repair. But the patient with cord involvement presents another problem altogether.

There is in the first place the patient with a tendency to recovery of the paralysis. Apart from total severance, all patients with paralytic symptoms have a reasonable hope of recovering some or all of their muscle power. To give this hope every chance of becoming a fact we should treat these patients on the same general principles as we adopt in infantile paralysis and in spastic paralysis.

The flaccid muscles are asking for fixation in relaxation, succeeded by tentative efforts to detect a flicker of voluntary control in them. If a flicker of voluntary control exists, then that muscle must be coaxed up the ladder of power by ever so carefully graded increments of voluntary effort. Massage does not restore muscle power, although it has other virtues which I need not numerate. The masseur's task is to devote at least as much time to producing voluntary movement, at first with gravity aiding, then against gravity, then against resistance, as he does to massage.

The spastic muscles can in most cases be controlled by early rigid and continuous fixation. As recovery proceeds the spasticity gradually passes off. Much may be done to the spastic muscles by muscle reeducation—the weaker muscles are strengthened by exercises against resistance to overcome the pull of the stronger muscles. I must warn again against massage and intermittent stretching of the contracted spastic muscle.

As soon as the limit of recovery of the spinal cord has been reached, we know then what amount of residual spasticity we have to deal with; then and not till then is it time to think of ramisectomy.

In the period of waiting for the limit of recovery it would appear logical to rely on nerve crushing as an operative measure to control a predominating spasm, for example, of the adductors.

I transcribe from Lovett's book the following:

> It may be formulated in advance that any patient with flaccid paralysis of the lower extremities, abdomen and back, without contraction deformities, can be made to walk in some form or other provided he has one arm good enough to hold a crutch. The only cases that need be dismissed as hopeless are those with flaccid paralysis of both arms and both legs.
>
> Patients with complete paralysis below the axilla can walk if the knees are kept from flexing by caliper splints. . . . .
>
> If the crutches are placed well apart and slanted well forward at their lower ends, jerking the feet forward together a few inches by body movement is possible.

This tripod walking in a pair of walking calipers should always be used for patients who are in process of recovering muscle power and it is a crumb of comfort to hold out legitimately to those who have no hope of recovery of muscle power.

A final word as to the general treatment of the patients with total transsection.

(1) A suprapubic bladder drainage is often indicated and the prone posture on the new splint described this evening gives drainage by gravity.

(2) The patient's happiness depends on keeping a high level of general health. All sources of toxæmia must ge guarded against and he should be encouraged to obtain exercise by the use of those muscles which remain to him. Swimming is a possible and admirable form of exercise for these patients.

(3) Bed sores are a largely preventible complication and the water filled bed and rings of soft wool are essential.

TONSILS AND ADENOIDS IN CHILDREN.[1]

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THE title of this paper was suggested by a subcommittee of the Council, the object being to promote a discussion on a subject of everyday interest to most practitioners. Increased attention has recently been drawn to the matter by the activities of the school medical officers and many of you will have received visits from parents armed with a notice from the Education Department. I will endeavour to place before you my personal views and will mention some of the ideas which govern my own practice. This is by no means intended to be a complete survey of the subject, I have selected what to me are the chief aspects without wishing to appear dogmatic.

For purposes of discussion the subject has been limited to the question of tonsils and adenoids in children, that is, from infancy to twelve years of age.

Adenoids.

First of all let us consider adenoids.

Lymphoid tissue is present in the nasopharynx from earliest infancy; when this increases in amount sufficiently to cause certain well known symptoms, the mass known as postnasal adenoids or the pharyngeal tonsil becomes of clinical interest.

What are the symptoms and signs denoting the presence of adenoids? Briefly these are: (i.) Nasal

[1] Read at a meeting of the South Australian Branch of the British Medical Association on August 26, 1926.

obstruction and its results; (ii.) aural symptoms, such as deafness, earache and acute *otitis media* either catarrhal or purulent; (iii.) enlarged cervical glands in the posterior triangle; then we have the condition termed aprosexia; this has led some people to suggest that it may be due to some internal secretion and allied to conditions like acromegaly or myxœdema. In adenoids one sees definite retraction of the tympanic membranes; lymphoid granules are often prominent on the post pharyngeal wall and while the patient is gagging as the result of examination a mass of clear mucus may be expressed from the nasopharynx. Some consider this pathognomonic.

Nasal obstruction may occur as the result of adenoids in infants a few months old, preventing the infant from taking either breast or bottle and so nutrition is impaired. The question often arises as to the age at which adenoids should be removed, for I take it for granted that removal by operation is the only treatment worth considering when symptoms are well established.

Breathing exercises and proper use of the handkerchief may be of value in older children, but rather as a postoperative measure than as an alternative form of treatment.

To return to the question of the best age for removal: There is no definite age; any age when causing symptoms is the best age, even in infants a few months old.

The great majority of children commence to exhibit symptoms chiefly of nasal obstruction about three years of age. The child frequently shows no symptoms; then following a severe cold, influenza, measles, scarlatina *et cetera* obstruction seems to occur almost at once and from that time symptoms persist until relieved by operation.

The ear symptoms are important and are a definite indication for removal. I have mentioned the chief symptoms—earache (often comes on at night), deafness and acute catarrrhal or purulent *otitis media*; in the latter when the tympanic membrane is opened or ruptures the discharge may persist until the adenoids are cleared out.

Do adenoids recur?

They do not recur if completely removed, with the possible exception of those cases in which the child is under two or three years of age at the time of removal. In these cases in spite of a well performed operation the lymphoid follicles remaining may proliferate and produce a further mass of tissue later, especially following one of the acute catarrhal processes.

Adenoids are often diagnosed by the so-called "adenoid facies." All children with adenoids do not show this and likewise all children with "adenoid facies" do not have postnasal adenoids; the alteration in the appearance may be due to nasal obstruction produced by other causes such as septal deviations. Then again the narrow nasal passages, high arched palate and prominent incisor teeth may be a family characteristic. It is a debatable point whether the adenoids produce the changes in the skeleton as the result of nasal obstruction or whether the changes in the skull are primary and developmental in character, the narrow nasal passages resulting from this producing a tendency to the formation of adenoids; I believe such a high authority as Sir Arthur Keith holds the latter view. A symptom I have not mentioned is the frequency of colds; young children often have a persistent mucopurulent nasal discharge. There is a pitfall here, especially in older children. The trouble may be due to sinus disease, particularly infection of the maxillary antra; but in these cases if adenoids are present also, it is necessary to remove them as part of the treatment.

I mentioned just now that it is often necessary to remove adenoids in order to clear up the discharge from a purulent *otitis media* threatening to become chronic. Some men advise removing the adenoids at the time of operation for paracentesis, that is, during an acute purulent *otitis media*. I do not think this is safe; for the simple reason that the cause of the acute *otitis media* may still be present, namely an acute nasopharyngitis, however caused, and one does not operate on nose or throat conditions while an acute nasopharyngeal condition is present for fear of spreading the infection.

Postnasal adenoids show a tendency to atrophy from ten to fifteen years of age, but the damage is usually done before this to appearance, voice, hearing, physique and often there is retarded education due to ill-health; so it is wrong to wait for this age in the hope that the adenoids will disappear. To sum up, the indications for operation in case of adenoids are:

(i.) Mouth breathing day or night. It may be only at night with noisy and restless sleep, perhaps only noticeable when a cold is present.
(ii.) Chronic mucopurulent catarrh.
(iii.) Frequent colds.
(iv.) Spasmodic cough which may be caused by the irritation of the unmoistened and unwarmed air on the pharynx or by mucus dropping into the throat.
(v.) Enlarged cervical glands in the posterior triangle.

On removal risks of infectious diseases are diminished and if they do occur, they are less likely to cause complications of nose, throat or ear (this also applies to diseased tonsils). Best results from the operation are obtained if it is done before the second dentition; after seven or eight years the results are not so pronounced.

Tonsils.

At the outset one may state definitely that the removal of tonsils should not be recommended unless a definite indication exists.

The chief indications are:

(i.) Enlargement producing obstruction to respiration or deglutition and alterations of speech.
(ii.) Sepsis.
(iii.) Repeated attacks of tonsillitis.
(iv.) Enlarged cervical glands.

Here crops up the question of tuberculous cervical glands; the tonsil may be a portal of entry and glands, already enlarged as the result of chronic inflammation, may more readily become tuberculous. The tonsil itself may show no naked eye changes; in fact the tubercle bacillus may possibly pass through the tonsil to the cervical glands without causing either macroscopical or misroscopical changes in the tonsil.

Sometimes young children may be subject to obscure attacks of pyrexia and it is often difficult to find a cause for this, especially during the intervals between the attacks, for it is not always possible to tell by clinical appearances if tonsils are definitely diseased. One has often to rely on the history of the case and this is valuable, especially if one is able to obtain a report from a medical man who has attended the child during an acute attack.

The influence of septic tonsils on such conditions as acute rheumatism, chorea and acute nephritis is generally recognized; the specialist operates on these cases at the request of a physician, but unfortunately he does not always learn the result of the treatment. Perhaps some of the members can give us a little information on this point. I might mention here the so-called catarrhal child, the child who is constantly in trouble with nasal stuffiness and discharge, perhaps associated with feverish colds; these attacks often clear up when the tonsils and adenoids are removed.

Children will often be brought along for an examination of the nose and throat to see if it is necessary to remove the tonsils and on inquiry no definite history of symptoms can be obtained and no clinical evidence of enlargement or disease can be determined. The parents state that perhaps the child does not seem so well as he should be and from experience of the other children who have had tonsils and adenoids removed and have improved in general health, they thought that the tonsils might be the cause of the indefinite symptoms in the child under consideration. If in these cases there is no indication definitely present or past history of tonsil trouble is absent or doubtful, I think it wise to advise the parents to report again for further examination and especially if a sore throat occurs, so that the patient can be seen during an acute attack.

A question that sometimes crops up is whether tonsillotomy—by that I mean partial removal of the tonsils—is sufficient in very young children.

Personally I think complete removal should be practised in every case. I know cases can be quoted in which tonsillotomy was performed in early childhood and the patient has grown up without any further throat trouble. The explanation here I think is that these were cases of simple hypertrophy without definite sepsis and the operation relieved the symptoms they were causing, mainly obstruction.

The crypts in a child of two or three years are very shallow, so that tonsillotomy removes all that part of the tonsil likely to become septic, but you can never be sure of the amount removed and I believe it is sounder practice to remove all the tonsil in every case.

A common question asked by parents is: "Do tonsils grow again?" The answer, of course, is they do not if completely removed.

Some tonsils have a very definite lingual prolongation and we have most of us had the experience of performing what we considered at the time a very efficient operation, to find later that there has been an apparent recurrence at the lower pole. This lingual prolongation may enlarge subsequent to operation and form quite a respectable mass at the lower part of the tonsillar fossa. It may become inflamed and cause a sore throat, but it is not so serious as when a piece of the upper pole is left behind. This lingual prolongation must not be confused with the lower half of a bilobed tonsil, if this is left it may become as large as the original tonsil. After complete removal of the tonsils the lymphoid tissue in the pharynx may become increased, particularly in the lateral pharyngeal bands and the follicles on the posterior pharyngeal wall. This tissue may inflame and give rise to sore throats also and the parents of the child may think that there has been a recurrence of tonsillitis.

A further question often asked is: "At what age should the tonsils be removed?" It is rarely necessary to remove tonsils under three years of age. I do not strongly advise removal of tonsils under five years, unless the indications are very definite, such indications being chiefly definite enlargement causing obstruction and evidence of infection as shown by definite enlargement of the cervical glands with a history of inflammatory attacks. If these indications are present, I do not hesitate to remove the tonsils in a child under five, but the results are not always satisfactory unless the indications are quite definite.

Still another debatable point.

In a case of definite adenoids in which operation has been decided upon, should the tonsils be removed as well, although they have caused no trouble in the past? Opinions differ here. My practice is again to look for a definite indication; if one cannot be found then I do not think one is justified in removing the tonsils as well.

I will admit that often a year or two later the tonsils may enlarge and cause trouble so that they have to be removed, but if you warn the parents of this possibility at the time, you should not be blamed if it does occur. When the tonsils are being removed, if any adenoid tissue is present, always remove this as well, however small it may be. Usually hypertrophy of the tonsils means that the lymphoid tissue in the naso-pharynx is increased also, but adenoids may exist without enlargement of the tonsils.

In conclusion, I must apologize for the rather disconnected way in which I have presented this paper, but if it has the desired effect of promoting a discussion on the points raised my object will have been achieved.

ACUTE MIDDLE EAR INFECTIONS IN CHILDREN.[1]

By E. A. MATISON, M.D. (Illinois),
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THE presentation of this short paper was prompted by some observations made by me while treating middle ear infections at the Children's Hospital and in private practice.

A little over a year ago Dr. Helen Mayo and Dr. LeMessurier referred patients to me for mastoid operation who were suffering from symptoms referable to the gastro-intestinal tract. In some cases there was bulging of the tympanic membrane, but these were in the minority. In a considerable number of cases, apart from an injection of the posterior upper quadrant of the membrane and some sagging of the posterior superior canal wall, all the usual signs of mastoid involvement were absent. However, on opening the mastoid in many cases I found pus. It was remarkable to observe the favourable turn these patients took after the mastoid antra were drained. I admit that the first patients were treated rather conservatively by me and the operations were postponed until the trouble was too advanced. In some cases paracentesis was done, but this was found to be inadequate to drain the whole of the middle ear. The middle ear from a clinical point of view is made up of a series of communicating pneumatic spaces which begin with the pharyngeal orifice of the Eustachian tube in the lateral wall of the nasopharynx and terminate in the pneumatic spaces of the mastoid process. The mastoid cells are not present in infants. As the child begins to develope and the need for a firmer attachment for the sternomastoid muscle arises, the mastoid process developes and it is not until the age of puberty that the pneumatization of the process is completed.

The Eustachian tube has a flaring trumpet-shaped opening in the lateral wall of the nasopharynx. Its location is such that it is very readily pressed upon by the pharyngeal tonsil or adenoid. The tube is lined with ciliated epithelium which keeps the middle ear free from microorganisms. The tube in its inner two-thirds is membranous while the outer one-third is osseous. The osseous portion is open while the membranous portion is closed, except when the act of swallowing dilates the tube and allows the passage of air into the tympanum.

The tympanic cavity is made up of three parts:

(i.) The *mesotympanum* or tympanic cavity proper.
(ii.) *Recessus epitympanicus,* made up of the attic and *aditus.*
(iii.) *Recessus hypotympanicus,* a depression lying below the attachment of the tympanic membrane.

The outer wall of the tympanic cavity is made up of the tympanic membrane and a shelf of bone forming the outer boundary of the attic and *aditus.* The roof is made up of a thin shelf of bone called the *tegmen* which extends over the attic, the *aditus* and the mastoid antrum. Through this *tegmen* a suture passes known as the petro-squamosal suture. This is open for the first year or two of childhood forming a direct communication between the middle brain fossa and the middle ear. The floor of the *tympanum* in children is in close relation to the bulb of the jugular. For these reasons direct extension of infection from the middle ear either to the middle brain fossa or the bulb of the jugular takes place more readily in children than in adults. It is to avoid this extension that early drainage of the middle ear in children is particularly important.

The inner wall is formed by the promontory which separates the tympanic cavity from the labyrinth. Above and posteriorly there is the oval window and directly below there is the round window. A chain of three small ossicles, the *malleus, incus* and *stapes* connects the tympanic membrane with the oval window. The *stapes* is attached to the oval window. Most of the *malleus* and *incus* are in the attic. Folds of mucous membrane connect these ossicles with the walls of the tympanic cavity. These membranes often separate the attic from the tympanic cavity proper, thus accounting for the fact that paracentesis will not relieve an infection which has extended beyond the *mesotympanum.* The mucous membrane lining the *tympanum* in a new-born child is covered with a thick gelatinous material almost filling the *tympanum,* attic, *aditus* and *antrum.*

After the child has dilated the Eustachian tube through the act of nursing and crying, air enters the tympanic spaces, an absorption of this gelatinous substance takes place and only then does the pneumatization of these cavities commence. It appears to me that the presence of this gelatinous substance particularly favours the localization of infection in the middle ear of the child.

The Tympanic Membrane.

The diagnosis of middle ear disease is based largely upon changes found on inspection of the tympanic membrane. The membrane is of oval shape, its direction is downward, forward and inward; it forms, therefore, an obtuse angle with the anterior and superior wall of the osseous meatus and an acute angle with the anterior and inferior wall. Its colour is pearly grey. Near the upper margin anteriorly is a small pointed elevation, the *processus brevis* of the *malleus.* Extending downward and backward from this point to the middle of the membrane is seen a line produced by the handle of the *malleus* or the *manubrium.* This is embedded in the tympanic membrane. In children the tympanic membrane is thicker and more resistant than in adults. Owing to this, bulging and rupture of the drum membranes take place less readily than in the adult. On examining the normal membrane through a speculum, there is seen extending downward and forward from this *manubrium* a cone-shape reflex of light; this, is, perhaps, the most conspicuous landmark of the normal drum membrane. Above the tympanic membrane one can

[1] Read at a meeting of the South Australian Branch of the British Medical Association on August 26, 1926.

see Schrapnell's membrane or *pars flaccida* in contradistinction to the *pars tensa* as tympanic membrane proper is known.

Acute Simple Otitis Media.

Acute simple *otitis media* is one of the most frequent diseases of childhood and is characterized by swelling and reddening of the mucous membrane of the tympanum and the outpouring of a serous exudate filling the cavity. It is usually an extension of an infection from the nasopharynx carried through the Eustachian tube by sneezing and vomiting. In mild cases the tympanic membrane is only congested while in severe cases its landmarks are completely obliterated. As the exudate increases in quantity, bulging takes place.

The pathological changes consist of a swelling of the mucous membrane of the *tympanum, aditus, antrum* and pneumatic spaces. The exudate which at first is serous or hæmorrhagic soon becomes purulent and then we have to deal with acute purulent *otitis media*. It is most difficult to determine, from the appearance of the drum membrane whether the condition in question is *otitis media serosa* or *otitis media purulenta*, as the one merges into the other without any change in the appearance of the tympanic membrane. Usually the severity of general symptoms such as pain and temperature will indicate the type of infection from which the patient is suffering. The treatment of the serous and purulent *otitis media* is the same. It is, therefore, not of such great practical importance to differentiate the two. The treatment consists of free drainage of the tympanum. This is accomplished by making an incision in the tympanic membrane. When the discharge has already made its appearance, it is frequently necessary to enlarge the perforation or make a fresh incision in a more favourable position. If the rupture of the membrane has taken place too far forward, the discharge, especially if of thick consistency, will soon block the opening. We, therefore, always aim at making the incision posteriorly extending from "6 o'clock to 11 o'clock" in the right ear and "6 o'clock to 1 o'clock" in the left ear. After the incision is made the meatus is to be cleansed of the discharge as frequently as may be required and an instillation of some silver compound, "Argyrol" or "Neo Silvol" 5% to 10%. "Mercurochrome" or gentian violet according to the staining properties of the microorganisms found in the discharge is very useful. If microorganisms take the Gram stain, then use gentian violet and "Mercurochrome" if microorganisms are negative to the Gram stain. Smearing the auricle with vaseline will prevent the development of an eczematous rash. Early recognition and appropriate treatment will save the child the risks of intracranial complications or a chronic middle ear suppuration necessitating operative treatment in later life.

If there is an enlargement or septic matter present in the faucial and pharyngeal tonsil, these should be removed as in the majority of cases these constitute the primary focus of infection.

Acute Suppurative Mastoiditis.

Acute suppurative mastoiditis is nearly always secondary to acute or chronic middle ear infection. Mastoid necrosis is only a final stage in middle ear pathological change and is not a pathological entity *per se*. In doing mastoid surgery one has an opportunity of observing all stages in the evolution of a mastoid lesion. These may be divided into three stages, engorgement, suppuration and necrosis.

The stage of engorgement corresponds to *otitis media serosa*, the stage of suppuration to that of *otitis media purulenta* and the final stage to that of mastoid abscess.

It is, therefore, obvious that every *otitis media* of simple type is a potential mastoiditis either if the patient's resistance is below par or if a delay in draining the middle ear has occurred. The symptoms of mastoiditis I will take up in the order of frequency of their occurrence. They are:

(i.) Tenderness on pressure over the mastoid, particularly over its tip is the most reliable sign.

(ii.) Sagging of the posterior superior canal wall of external meatus.

(iii.) Change in soft structures over mastoid:
  (*a*) Obliteration of crease at junction of ear and mastoid;
  (*b*) Œdema.

(iv.) Character and duration of discharge. "If the discharge persists for more than four weeks the diagnosis of mastoid abscess can be made even if other symptoms are absent" (Shambough).

(v.) Rise in temperature. This varies considerably and temperature is frequently normal even in severe cases of mastoid necrosis.

(vi.) Pain may either be very acute or totally absent. Pain can never be taken as a guide as to the severity of lesion for some of the most urgent cases may be free from this symptom, while acute pain in the region of the ear may be due to acute tonsillitis, carious teeth or impacted molars.

Now to speak of mastoiditis in infants before the development of the mastoid cells is a paradox, as in these young patients apart from the single cell, the mastoid *antrum*, there are no other mastoid cells present. It would, therefore, be more correct if we would speak of mastoid antritis than of mastoiditis. The absence of cells in the mastoid of the infant is possibly responsible for the atypical pathological changes and symptoms observed in mastoid antritis in infants. There is just the small pent-up pocket of pus in the attic, *aditus* and *antrum*. This pocket of pus many be present even when the *mesotympanum* drains efficiently. In reviewing the signs of mastoid antritis in infants and giving them in order of their occurrence, I would say:

(i.) Diarrhœa, vomiting and dehydration.

(ii.) Bulging or ruptured tympanic membrane.

(iii.) Sagging of posterior superior meatal wall.
(iv.) Temperature may or may not be very high.

Treatment.

If conservative treatment, such as early myringotomy, does not give the expected improvement within a reasonable time then we must resort to operative treatment.

Conclusion.

In conclusion I wish to draw your attention to the following:

1. The mastoid *antrum* in children is a frequent seat of infection without giving the usual mastoid symptoms.

2. The reasons for the frequent incidence of middle ear infection in children are:

(*a*) Gelatinous material filling the middle ear which in the course of degeneration and atrophy renders this cavity less resistant to infection.
(*b*) Eustachian tube in infants is much shorter and more open than in later life, making secretion from rhinopharynx easier to enter.
(*c*) Frequency of gastric disorders.
(*d*) Last, but not least, the position of the child in bed prevents gravity from emptying the middle ear of its content.

3. The tympanic membrane of the child is much more resistant than in the adult, it therefore ruptures later in the child than in the adult.

4. In infants suffering from symptoms of the gastro-intestinal tract the ear should be examined and an early myringotomy performed if the tympanic membrane is found bulging or congested.

5. If myringotomy does not cause an appreciable improvement in the child's condition, then the mastoid antrum should be drained posteriorly.

THE STUDY OF NORMAL AND PATHOLOGICAL CHARACTER.

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Character may be normal and in accord with social requirements or pathological and a burden on the community. The range of normal character is wide, but it is confined within limits that permit no hurt to the wellbeing of any member of society. Outside these boundaries we find the vicious, the criminal and the insane. All forms of society, no matter how primitive, recognize the normal and the abnormal character. The transgressor of the totem and taboo laws is punished because he has pitted himself against the rules and customs which hold the tribe together and the breaker of the laws of the more civilized countries must also pay penalty for the same reason. In the case of the insane, there is a difference made in the treatment allotted to them in various countries according to the state of civilization developed, ranging from the method of tying them to posts, as in China, to the housing of them in well equipped mental hospitals, as in our own country.

An individual's conduct is the indicator of his character or ego. Mercier has defined conduct as "thought in action." The ego or character is the result of two factors: Heredity and environment. An individual can therefore derive certain mental qualities from his parents and other mental qualities from his environment. A good heredity and a bad environment during the upbringing of the child may produce a bad character and a bad heredity with a good upbringing may produce a bad character. The word "may" is used instead of the word "will," because occasionally an individual with everything apparently against him in heredity or environment developes a normal character.

The Influence of Heredity.

In the normal child at the time of birth the structure of the brain is that of the human race in general and that of the parents in particular. "Like begets like." Without going into the explanation or theories of blended and alternative types of inheritance, we can say that the recognized inheritance of bodily and facial resemblance, skin colour, colour-blindness, hæmophilia, type of hair, syndactylism and many other examples, justifies us in saying that the intricate structures in the brains of the parents are produced with great similarity in the offspring (allowances being made for the offspring being a composite of the two parents). We see a tendency to the same shaped head characterizing members of the same family and as the shape of the head is indicative of the shape of the enclosed brain, it is fair to assume that the corresponding areas of the brain are reproduced in the same proportion, giving that particular resemblance in the mental attributes of the individuals of that family. Furthermore, we realize nowadays that the health of the other parts of the body influences the health of the cerebral neurones, in this way affecting the tone of feeling in the mind of an individual. Thus if a tendency to physical disease in parts of the body other than the brain is transmitted to the offspring, it will be liable to produce a similarity of tone of feeling in the mind of the offspring with a consequent similarity in character. This may be exemplified in families whose temperaments are characterized as being "livery," due to their having inherited a weak digestive system from one of the parents.

That family resemblances are not the result of similar environment is seen in the case of adopted children where the adopted one at a very early age shows a remarkable dissimilarity from the others. Natural history is full of examples of the inheritance of characters. The duckling takes to swimming although hatched and mothered by a barndoor fowl. The pointer and setter dogs point and set without tuition. A well bred sheep dog without tuition de-

lights in rounding up sheep, fowls or cattle. Horses sired by a certain stallion at Gippsland, although quiet and useful in the shafts, cannot be used for saddle work because of a tendency to buck. The famous Jukes and Kallicut families may be cited as examples of bad heredity. An adopted girl with a good home in a wealthy merchant's home near Melbourne at the age of seventeen took to the streets and ended up in a venereal disease detention ward. It was subsequently discovered that she was the daughter of a Lonsdale Street prostitute and in spite of her early adoption and schooling in one of Melbourne's best schools she threw up all the advantages of a good home for the streets.

Every human being inherits from the parents in addition to its human shape a set of instincts which are essential to the continuance of the race in its position of first amongst all living things. The instinct to suckle is present at birth and the other instincts develope at different ages as growth proceeds and as they are required. The instincts of self-preservation, maternal care of the young, the sexual instinct and the instinct to eat and drink *et cetera* in primitive man when everybody outside the family or tribe was an enemy, necessitated the destruction of the other man's property or better still killing him, to eliminate all danger from him and also so that his goods and women could be acquired. Thus, what may be called primitive instincts, became as civilization progressed less necessary because the king or chief as the head of society took upon himself the rôle of protector and punisher of his subjects and all quarrels had to be submitted to him for settlement. Nowadays the judges act in this capacity for the king. These primitive instincts, however, were so deeply associated with the struggle for existence that they have been handed down through generations and may still be seen in the early conduct of normal children in the shape of contentions, acquisitiveness and general savage conduct much to the horror of the parents.

These mental attributes are archaic compared with present day social instincts, but if later day social instincts are not developed and do not supplant them, the individual possessing them will be a menace to the peace of society. In those individuals who for some reason have failed to reach complete mental development, this archaic form of instinctive self preservation is not inhibited by the more recently acquired form, because the nerve cells governing the latter have not developed and the individual is kept within bounds only through fear of punishment. We do not require to seek for these individuals whose archaic instincts are poorly controlled, because they force themselves upon one's notice every day. The behaviour of the mob during the Melbourne police strike showed how thin the veneer of civilization is in a great number of people who conform to the dictates of society's laws only because they are obliged to do so and not because their judgement tells them that failure to do so means a reversion to an era of every man for himself or a retrogression from national government to tribal or family government like the more primitive forms of civilization.

Bolton's work throws further light on the subject. Bolton has shown that the layers of the cerebral cortex in the prefrontal area differ in thickness in amentia (mind lack) and dementia (mind loss) from the normal minded person. In amentia and dementia a deficiency is seen in the supragranular layer while the subgranular layer which is regarded as the layer controlling the primitive instincts, remains well represented. Now patients who are suffering from amentia and dementia are distinguished clinically from normal persons by a want of control over their primitive instincts so that they steal, gorge, *et cetera* when opportunity offers. They are without any thought of consequences and act blindly, untrammelled by social laws which are a product of much later development and which are the results of reasoned plans for controlling society. This want of control is not the same in all these aments and dements. It varies according to the degree of amentia and dementia present, so that there are persons in whom the conduct is absolutely insensate and others in whom the lack of control is of a mild degree and gives evidence of its presence only when the temptation is fairly strong. Those who daily study the insane, cannot fail to see that the difference between the aments and dements and the Melbourne mob during the police strike is only a matter of degree. If the members of that mob had been tested by standard mental tests, there is every reason to believe that the average intelligence quotient would have been considerably below the normal standard. In support of this surmise is the fact that the occupation of nearly all the men arrested for crimes committed in Melbourne according to the daily papers is that of labourer. Now a labourer is different from a carpenter or any other manual worker inasmuch as he has no trade or skilled occupation, being merely a human horse with his brute strength as his only asset. He is a labourer because he either has no brains to acquire skill in anything or he has no ambition. Both these reasons indicate mental deficiency. Dealings with these labourers will soon convince any student of psychiatry that they have a lower type of brain classified by some authorities as "backward persons" with an intelligence quotient above the moron but between 75 and 90. The ethical sense or social instinct in these persons is not strongly enough developed to control the primary instincts when police control is wanting. Authorities state that future evolution of the human brain will be in an increasing of the ethical sense. The higher the intelligence in the animal kingdom, the more prominent is the fore part of the brain which is of later development than the parts in the base. Clinical, surgical and *post mortem* evidence proves this fact. This part of the brain attains its maximum in man and as shown by Bolton, the degree of development in this area varies in different individuals. The character of a person poor in neurones in this area must, therefore, lack the

higher attributes of self control, ethics *et cetera*, although the general intelligence concerning his surroundings may be sufficient for him to earn a living. The native cunning of his primitive instincts will suffice for that. Clinically we can see idiocy, imbecility and the moron in this type of hereditary defect.

As previously stated, our present day knowledge of insanity shows that the proper functioning of the nerve cells depends upon the health of the body as a whole. For this reason it is not always necessary for the individual to have a deficiency in the thickness of the supragranular layer of the cortex to cause lack of self control. Any physical condition which affects the nutrition of the brain cells is felt most sensitively in those latest developed cells and the result is equivalent to cell lack in this region. The effect of alcohol upon the behaviour of a crowd of usually well behaved students at a gala festivity is an example of this. The loss of self control from physical illness is also well known. In the same manner the inheritance of a body subject to the same physical advantages, defects and pathological changes, as those of the parents will tend to produce a temperament like that of the parents. The neurotic temperament feels pain and joy most keenly, enjoys and suffers most and is therefore most sympathetic. The artistic temperament is his. The sanguine is a pusher mainly for his own interests, most travellers and explorers being of this type. He is not hampered by the disadvantage of being too sympathetic. The phlegmatic temperament takes life as it comes and does not seek work for work's sake.

The Influence of Environment.

At birth the mind of the child is a blank page and the only provision it has for the continuance of its existence is the instinct to suckle and a reflex cry for food and when in pain. Apart from that it depends absolutely upon the services of others. Left alone, it would die. Nothing could express better than this picture the absence of any character that could be attributed to environment. At this stage some of the parts of the central nervous system are still unmyelinated and therefore cannot function. When myelination of these parts is complete, they are ready to function and supply the requirements of the growing child. For example, the myelination of the pyramidal tract is not complete till the child is ready to walk. Even the instinct to suckle and the reflex cry for food and when in pain are born with it and are not due to environment, so that practically its introduction to the influences of environment does not commence till it begins to register sensory impressions. Apparently the first sensory impression is the olfactory sense, as it is by smell that the child recognizes its mother from a stranger and in these days when the nurse takes the child from the mother after every feed, the child seems to recognize the nurse in the same way and will cry vigorously in the arms of anyone else. In this way from the day the child is born, it receives sensory impressions in the cortex as fast as these sensory areas are equipped to receive them and register them permanently as engrams. At the end of the month the eye is a seeing organ and the child begins to recognize those around it by appearance and also by the voice.

It is the number and quality of the engrams thus registered which make up the education of the child and its knowledge of life. If the child is brought up in an environment in which there are no social ethics and vice is present, the customs of the surroundings will naturally become its customs, unconsciously following the rule of "in Rome do as the Romans." If it receives no engrams of social ethics, its thoughts and consequently its conduct will be unethical. The result will be the adoption of a lower grade of social customs, previously referred to as the primitive instincts, which are kept within bounds only by the fear of punishment at the hands of the authorities appointed to preserve peace and good order. Keeping in mind the fact that all conscious sensory impressions are registered permanently upon the brain, we can easily understand how an individual, brought up under unethical conditions, will differ in character from an individual brought up in an ethical environment. In the science of heredity these differences are known as acquired characters and are not transmitted to offspring like the instincts and the temperaments due to the inheritance of physical similarities.

In the consideration of environment in connexion with forms of life other than man the effects of use, injury and nutrition are carefully studied. The influence of these upon man's external appearance is not so remarkable as it is upon plant and animal life, but it produces a variety in the characters of the inhabitants of different parts of the world. Dwellers in rough mountainous countries usually have rough natures in contrast with the more placid dispositions of the plain dwellers whose agricultural pursuits demand peaceful conditions. Nomadic races, like the Gipsies and the Arabs, are thieves.

Temperatures, humidity, altitude and all telluric influences, being part of the environment, have an effect upon man's character. Experts in criminology tell us that crimes against the person are more common in summer and spring and crimes against property are highest in winter. Hot weather increases crimes of impulse and the maximum of suicides occurs in the hot weather. The effect of the east wind upon the temper of Melbourne citizens is well known.

Chronic ill health shows its effect upon the character. Adenoids in children produce the dulness of aprosexia. The lack of *élan vital*, whether due to ill health or temperament, inhibits ambition, while its presence makes for energy. Sometimes one child in a family developes a feeling of resentfulness because another who is not robust, gets all the

attention. As a rule the child in a large family is preferable to a child brought up in a household comprised of adults. Sometimes a child with a step-mother gets the feeling of "odd man out" and becomes hard and selfish in character. Lack of recreation, especially in outdoor sports, produces introspection and in the neurotic temperament at the age of puberty a harmful inquisitiveness about sex matters. The spoilt and the coddled children have their characters marred by their environments. All these examples of different environments, although they do not alter the human form so much as they do the forms of lower animal and plant life, by their influence upon the character, produce in different individuals what is known as a different behaviour reaction to different situations. Thus in the presence of a threat of physical violence the boy brought up to sports and rough and tumble outdoor games, will be more likely to resist force by force than the soft nurtured child.

Remedial Measures.

From the foregoing statements it is obvious that in studying characters both the heredity and the environment must be investigated. As the normal character calls for no interference, we can restrict our attentions to the pathological characters which include the vicious, the criminal and the insane. Measures for the study and treatment of the insane have long been established because civilized mankind has learned that the insane are not responsible for their actions. On the other hand, the vicious and criminal individual, unless he can establish a plea of insanity in addition, is held responsible for his conduct. Were it not for this, society would suffer considerably. Even the insane are held responsible for that part of their conduct which is not controlled by their insanity. Nevertheless, the study and scientific treatment of the vicious and the criminal have lagged behind, although the need for such is equally imperative. Lombroso, Ferri, Dexter and others have years ago investigated the different factors responsible for crime, but probably because of the differences of opinions expressed by these experts, the matter has not been taken up by any country until recent years. Work of this kind is costly and governing bodies have such calls upon their resources that the commencement of any new undertaking, lacking the promise of immediate dividends, has not much attraction. To be successful, treatment must be anticipatory and efforts should be concentrated upon the children who present evidence of pathological characters.

A matter which is at present disturbing the peace of all thoughtful men who are interested in social welfare is the question of juvenile delinquency. Nowadays so many of the crimes committed are the work of young lads and men who are, anatomically speaking, not mature. To treat this juvenile delinquency scientifically it must be ascertained which of the two factors, heredity or environment, is responsible for the crime undergoing investigation. Sometimes it is heredity alone which is responsible, sometimes environment alone and sometimes the two combined. Treatment must be directed against the cause of the delinquency. Indiscriminate or mass treatment cannot be applied, as no two individuals are exactly alike. The home life may be bad. A female child of about three years of age from a suburb which was not in any way hampered by being an industrial suburb, was admitted to the Alfred Hospital suffering from a severe burn and all the time the sister was dressing it this small child was screaming out at the sister: "O you b . . . . ." On the other hand, the home life may be good, but the school acquaintances may be bad.

Irrespective of whether heredity or environment is the causative factor, it is obvious that combating defective environmental factors is a much easier social problem to undertake than combating the hereditary factor. To improve the latter requires statutory measures which will prevent the reproduction of a large proportion of the population, judging by the number of insane on the books of the Victorian Lunacy Department; these were 2,945 males and 3,246 females, total 6,191, in 1925. When to these is added the vast number of morons who come under the ken of the venereal disease clinic officials and the reformatory schools, the enormity of the task can be realized. If heredity be the factor, then the individual requires farm colony treatment. If environment be the factor responsible, then the environment must be improved. The environment of every child in the State must be kept above a fixed standard. The assistance of all branches of the Public Service should be requisitioned in this matter. The building inspectors in the different municipalities should insist upon the size of the dwellings being suitable for the number of occupants. The Education Department by virtue of the law enforcing education upon all children can keep in touch with every child from seven years of age up till leaving age and report upon any suspicion of pathological character. The police also can help materially in reporting cases of bad environment in the districts which they patrol. A separate bureau is necessary to control the scheme. Provided the whole of the measures adopted are guided by scientific reasoning, there is every justification for the hope that success will follow, but if the movement falls into the hands of unqualified, well-meaning, but ignorant persons who think that the Binet-Simon and other tests represent the only knowledge requisite to examine these persons, then the results will be, to say the least, disheartening. The work should be controlled by medical men and women, as a medical education is essential to the understanding of all the factors which are intimately associated with the study of pathological characters.

THE TREATMENT OF WAR NEUROSES BY ABREACTION OF THE WAR SHOCK.

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MY experience with war neurotics whose treatment forms the larger part of my official duties in Queensland, has satisfied me that the method of abreaction, originally introduced by Breuer and followed up by Freud, is the method which offers the best chance either of cure or improvement in such cases.

The method which attempts the direct abreaction of the war shock, is naturally applicable only when such a definite shock or series of shocks have taken place. But this takes little from its usefulness in war neuroses, since this is the history of the majority of them. It should be noted at once that it is not to be confused with the method of analysis which Professor Freud subsequently developed out of it. It is a much simpler and more direct procedure, aiming, as it does, at the clearing up of a single incident in the emotional life of the person concerned and not, as in the case of analysis, at clearing up all his principal emotional trends.

It would appear that this method is less well known than it deserves to be and since at the same time it can readily be tested on the war neuroses which still abound everywhere, I wish in this paper to illustrate its application to a single case.

I first saw the patient, whose case I am about to describe, in October, 1922. He was complaining of nervousness, dizziness, insomnia and headaches. Under examination he was unsteady, very nervous, spoke with a stutter and was morbidly excitable and emotional; on the slightest provocation, for example, his eyes filled with tears. He was very sensitive about his condition and this, naturally, did not help him. On the physical side there was nothing to be made out apart from the physical evidences of nervousness. He was a man of first-rate physique, his general appearance and nutrition were good and there was no objective evidence of damage or disease in the nervous system or elsewhere apart from deafness in the left ear. It was clear that the condition was neurasthenic or hysterical, whichever term be preferred.

At that time the patient was very depressed about his condition, but there was also a history of recent financial worry which, I thought, might be a factor in this. Judging by the history which he gave me, he was clearly suitable for abreaction, if that proved possible, but at the moment I could not spare him the time for this. All I could do was to explain to him as simply as possible something of the general nature of his troubles, try to give him some insight into them and advise him on his self-management. I told him (what is true) that much could often be done for such a condition by the patient himself through the steady cultivation of self-control along commonsense lines.

On the next occasion on which I saw him, nearly two years later, he told me that he had succeeded for some time in profiting by my advice. His control over himself had steadily increased, his headaches had diminished and his speech had become nearly normal (he had stuttered badly only when he was excited). Unfortunately, a month or so previously, his brother had been killed in a motor accident when the patient was driving the car and this shock seemed to have brought back most of his previous troubles. It was principally on this account that he had come to see me again. His nervous condition was much as it had been on the previous occasion, if anything rather worse and this time I promised to take him for treatment as soon as I could arrange it. Treatment commenced in November, 1924.

I wish to make the nature of the treatment perpectly clear, and I shall therefore describe it in detail, but it will be worth while to consider first the condition in which the patient was at the time when treatment started.

The patient's condition at that time was once more improving, but he was still very nervous. He said that while he could now usually pull himself together in face of anything which he was able to foresee, any unexpected shock still knocked him completely off his balance. It was for him a humiliating fact that quite little things were capable of doing this. For example, a man had thrown a handful of cold water against the patient's back. This was intended as a joke, but its effect was to upset him completely. The shock produced in him was utterly disproportionate to the stimulus actually received and it took him some time to recover control of himself. Again, in a thunderstorm he could not prevent himself from "going to pieces." He still got giddy on exertion, and suffered from a dull, heavy ache in the back. The headache, however, was much better; he had not had a bad one for a fortnight.

The state of affairs in regard to his sleep was very interesting. About once a week on an average he would awake before dawn in a queer, helpless state, "a sort of a stupor," as he put it, in which he seemed quite unable "to get a move on." He would lie where he was till perhaps seven o'clock, until the power of thinking and acting properly came back to him. He thought this was most apt to happen if he had over-exerted himself the previous day (probably in reality it was apt to follow on over-excitement). He could not understand it.

Again, perhaps once in three weeks he would awake suddenly in the night in a quite different condition, trembling and frightened, he could not say of what and at the same time with a conviction that there was something, again he could not tell what, which he wanted to do or had to do. At such times he could not resist this feeling and was very much worried by it. He had made provision against this feeling by keeping all engagements, appointments *et cetera* noted in a calendar and he used to get out of bed and go over the list in order to satisfy himself. After a time the feeling would die away, but the nervousness would remain. He could not help feeling frightened, would imagine that he heard knocking under the house and would have to go down to satisfy himself that no one was there. Finally he would get back to bed and lie there wondering what could be the matter with him. On such occasions he did not usually get to sleep again before daylight. (I think it is not surprising that in a number of such anxiety cases—particularly in civilians, however—the patient reaches the erroneous conclusion that he must be going insane.)

On rarer occasions the patient suffered from nightmare. He dreamt that his left arm was being "slithered off," that he was being attacked, kicked to pieces, that five or six men were against him *et cetera*. These dreams, when they occurred, left him more or less upset for the day.

Another thing which he had noticed, and had been a good deal troubled about, was a queer feeling in his left leg which made it seem as though he could not use it properly. The leg seemed numbed and as though it didn't belong to him.

Suppose now that, before going further, we consider the situation with which we are faced in such a case as this. It is the typical situation in a case of hysteria.

In the first place, we are faced with a man who is physically healthy in the ordinary medical acceptation of the words. Careful physical examination reveals nowhere (with the exception of the deafness in the left ear) any evidence of any recognized form of physical damage or disease. The only physical signs we come upon, are well known signs, not of disease or damage, but of emotional excite-

ment: rapid heart-beat, but a sound heart; tremor and unsteadiness, but no evidence of damage in the nervous mechanisms of motor coordination.

In the second place and in correspondence with this result it is obvious at first sight that much of the patient's trouble is purely emotional. He is obviously a frightened man. The loss of control over himself, the weakness and the shakiness which come over him on any unexpected occurrence, seeming possibly to threaten injury, are easily referable to this cause.

But, in the third place, we have his peculiar statements about himself some of which are in hopeless contradiction to the physical findings and yet do not seem capable of explanation either by the mere fact that he is frightened. He is convinced that there is something seriously the matter with his back, yet his back seems normal. He says that his left leg "goes helpless" and he is sure that there must be something wrong there; but there is nothing the matter with his left leg and there seems no reason why a man's left leg should become helpless just because he is frightened; both legs perhaps might give way under him, but not one alone. He says that every now and then he awakes in a condition of stupor in which he is incapable of movement for quite a long time. It is not easy to see why he should. That at other times he wakes up frightened seems much more understandable, but why should he then feel that he has something to do, he cannot tell what?

It is of course true and it may be useful to note here, that the third aspect of the case, in distinction from the two first mentioned, rests on the statements of the man himself. But we shall see that they were probably entirely truthful.

We have now to turn to the question, what is the meaning of this situation.

In the present case we know the immediate origin of all the patient's difficulties. He was all right until he was blown up by the explosion of a stack of bombs in his immediate neighbourhood. Up to that time his war record appears to have been a good one. It was reasonable then to make, as I did make, a very careful inquiry into the circumstances of this accident.

These circumstances were simple. On the day in question the patient was engaged in seeing to the good order of the engines of a couple of aeroplanes. These aeroplanes were side by side at a little distance apart and he was in one of them, when a third aeroplane whose pilot was attempting to land, crashed head on between them and caught fire. One wing of the plane in which the patient was, was bent over him and imprisoned him. However, he was rescued at once. Hardly had he got out, when he and his rescuers realized that there was a bomb under the blazing aeroplane which must soon explode. The pilot by this time was in safety. They all ran and got about fifty yards away when the bomb exploded. They were thrown or fell to the ground, but no one was hurt. On picking himself up the patient noticed that the explosion had thrown burning fragments of the aeroplane in every direction and that there was a risk of the hangars going on fire. He rushed off to get an extinguisher in order to put some of the fires out and save the hangars. It would appear that he was alone in this attempt, the others having taken shelter. On his way back with the extinguisher he noticed that some burning fragments had fallen on the stack of bombs piled ready for the night's raiding. It seemed to him that if these were not put out the whole place would go up. He ran towards them, therefore, but when he was about the length of a cricket pitch away the stack exploded. He had a vision of bursting flames and hangars collapsing, felt himself lifted in the air and remembered no more until he came to himself in a base hospital. He did not know how long after this was. Actually it was some weeks later.

The question which now naturally arises, is: What was the effect of the explosion on the patient and what was his actual condition during the period of which he knows nothing?

Now we can be certain that whatever the effect was it was not a pure brain concussion. In the first place, the fact that he remembers the explosion itself is strongly against such a possibility. In the second place experience shows that pure concussion is not usually followed by any of the peculiar emotional and other troubles from which the patient had since suffered. There were many opportunities of observing this during the war and on this point I can also speak from prewar experience of concussion in my own person. But, if the patient was not concussed, then it must follow that he was not unconscious in the strict sense of the word, however different his mental condition may have been from what it ordinarily was; again, if he was not unconscious, the impressions which followed on the explosion, must have been registered at the time of their occurrence, although they had not remained subsequently within the range of his conscious memory. It might be possible, then, to recall them and get in this way the information which we want.

Now we know from the work of Freud that under certain conditions such recall is possible and it was at this point that my treatment of the patient began.

I explained to the patient that I proposed to recall the memory of the forgotten period, so as to find out exactly what did happen after the explosion. I told him that I had good reasons for believing that he was not unconscious during that period, as he had supposed he was and that if we went about it in the right way he would remember about it. He was, not unnaturally, very sceptical about this. He told me that he had racked his brains many a time, trying to remember something about it and had never succeeded in remembering anything. However, he also told me that a man who was present and whom he met afterwards in Australia, had informed him of something and that if it were true, it would go to show that he was not knocked out immediately. This was, that after he was blown up he went off and had a wash! This he could not believe, though he could think of no reason why the man should lie to him. Another man of his unit had told him that they never expected to see him alive again. I did not argue with him about this; the main point was that he was willing to put himself in my hands and let me see what could be done.

The procedure was as follows. I got the patient to relax himself comfortably on a couch and by means of a short fixation of his gaze (after half a minute or so I told him to close his eyes) and a few verbal suggestions in the direction of sleep, got him into a condition resembling a light hypnosis. He proved a refractory subject and the hypnosis, if

there was any, was very light indeed. The truth is that the patient, though he showed his willingness to do as I asked, could not help regarding the whole procedure with considerable suspicion. Since I am not an expert hypnotist, it is fortunate that hypnosis is not essential, though it is a help and shortens the process if it can be produced; it is sufficient if the patient relaxes, closes his eyes and fixes his attention according to the direction of the physician.

I then directed the patient to turn his attention to the events of the day in question and got from him a minute account, much as already given above, of all that happened up to the moment of the explosion. At that point he naturally stopped, saying that he could remember no more. I assured him, however, that this block in his memory was temporary. All that he had to do was to keep his attention turned to the explosion, looking into the blackness which seemed to follow it, and sooner or later the memories would come. I told him also that I knew it was disagreeable for him to fix his attention on this moment as I asked, but that was something which could not be helped. It was indeed easy to see that this was so. Every time he got his attention well fixed on that moment his whole body would heave upwards with the contraction of his spinal muscles. The truth is that this moment was one of the last moments in the life of the patient of which he would have thought deliberately of his own accord. Every time he got his attention well on it he felt again the lift of the explosion and the intensely disagreeable feelings of that moment began to rise again in him. His instinct was to turn his attention away and keep these feelings down. But I explained to him that these feelings were unavoidable, that there was nothing for it but facing them and that the best he could do was not to resist them, but let them come; the memories would come with them. He accepted this situation as willingly as could be expected in the circumstances.

Nevertheless, it was some considerable time before we began to get what we wanted. I kept him at it for an hour at a time, sometimes for two hours when I could manage it, four days a week. The first eight sittings produced no apparent result. The patient lay thinking as steadily as he could of the dump explosion, assuring me that there was nothing but blackness after that, while I on my side assured him with no less confidence that his labour was not going for nothing—all we had to do was to wait, presently the block would give way and something would appear in the dark. Finally my prediction was suddenly verified in a manner quite unexpected by the patient, though not by me. The patient suddenly found himself lying helpless on a stretcher. I say that he found himself, for that was how it appeared to him.

It is characteristic of memories under repression, memories actively but unconsciously inhibited, that when they begin to come into consciousness they are apt to appear in a very vivid, sometimes a hallucinatory form. It was so in the present instance. The patient knew well enough that he was lying with closed eyes on a couch in my room (or if he forgot it, it was only for moments), but at the same time it seemed to him that he was lying on a stretcher, looking in a dazed and stuporose fashion at a very different scene. He fell naturally into the present tense—not, "I was on a stretcher" or "I remember now lying on a stretcher," but "I am lying on a stretcher!"

His memory had in fact skipped the explosion and picked up, as I found later, about half an hour after it. From then on, in this particular case, I had nothing to do but to sit and listen to his account of what was happening to him. Slowly and bit by bit he lived again through the hours which followed. He described how he was lifted into a tender, driven to hospital, undressed, bathed, put back on a stretcher and wheeled into an empty room. It is not often that a comic element comes into my work, but it was so here. The patient was left alone in this room and I had to wait for more than fifteen minutes until two orderlies came to fetch him to the ward. Meanwhile he lay silent on the couch and to all my inquiries as to what was happening returned only the answer: "Nothing is happening, I'm all alone—the light hurts my eyes!" I confess that this apparent following not only of the time order, but it would seem, of the time spacing of events, was rather disheartening to me; for, supposing that the patient's amnesia extended over, say seventy-two hours and it proved necessary to live through this period with him, when were we going to get to the end of it? I have not seen such slowness in any other case, once the recall has been started.

Fortunately, events turned out more favourably, although the amnesia extended over weeks. The extreme slowness of the hallucinatory recall soon diminished. The first day in hospital took the longest; after that there was a decided speeding up. The patient described how his left leg was dressed—it was badly bruised, but no bones broken—how he was submitted to lumbar puncture, how they dropped something in his eyes—atropine probably and here it was curious to hear him remark after a minute or so: "My sight has gone funny!" he also described how people came to see him *et cetera*. It was evident that he was regarded as unconscious and probably as suffering from severe cerebral concussion and in this there is nothing surprising. I have watched a man for four days in hospital in a similar condition of stupor without being able to make up my mind whether or not there was cerebral injury; in the end I verified the diagnosis of hysterical stupor by waking him up. To cut a long story short, the patient remained in this condition of stupor for nearly three days, until, on the afternoon of the third day he came to himself a little and suddenly sat up in bed. When he reached this point (it took us three weeks to get there) the whole of the subsequent period, previously blank, cleared up at once.

At this point the patient's attitude towards me changed entirely. Up to then he had been very reserved and suspicious. What he thought exactly I cannot say, as he would not talk freely about it,

but we must bear in mind that from his point of view the whole thing was most peculiar. Day after day he came to my room to fall into a very disagreeable waking dream which seemed like reality and yet was connected up directly with nothing in the rest of his conscious experience. We must remember that so far he had skipped over the explosion itself and that the hospital in which he found himself was not the one in which he had previously supposed that he "came to." The doctors and nurses were all strange to him. The one redeeming feature was that officers from his unit came in now and then to see him. Whenever this happened, his face lit up. Add to this, a matter about which he did speak to me and required reassurance, that a treatment supposed to be intended to make him better was actually for the time being making him feel very much worse and it is not difficult to understand his feeling. I think it probable that during this process of revival his private opinion was that these experiences were not memories at all, but that some kind of black art was being practised on him—that I was influencing his mind in some inexplicable way. He never wavered, however, in his expressed determination to "see it out."

With the joining up with his previously remembered experience all this changed. There was now no doubt in his mind that these experiences were actual memories and his confidence in my trustworthiness proportionately increased. There was very little difficulty now about filling in the immediate effects of the explosion itself, although these were naturally much more violent and disagreeable, at least in some respects. It was done in one sitting.

What had happened was this.

This soldier was blown clean off his feet and hurled down violently on his left side. He struggled to his feet again only to find that his left leg was numbed from the hip downwards through the violence of the blow it had received and would hardly support him. Nevertheless he struggled along for a bit until someone got hold of him. He was put on a stretcher, but he would not stay there. As soon as he was left he got up again and actually went and had a wash. He collapsed again and was put back on the stretcher, but he seems to have been full of the idea that he must not give way, that he must keep up. He wanted to get up and rescue some property which he valued from a burning building, but this time he was prevented from doing so. At one and the same time with all this he was naturally suffering from the effects of the intense emotional shock he had received. Probably his efforts to keep going were dictated by the instinctive sense, that if he did not, total collapse was imminent. Finally he did indeed collapse into the condition of stupor in which he was removed to hospital.

It will be seen that the recovery of these memories throws a flood of light upon the patient's subsequent condition. Not only do we get from it the explanation of the patient's subsequent nervousness, but we get the explanation and, if that were necessary, the vindication of his complaints about his left leg —the numbness complained of was an intermittent revival of the sensations felt in it after the explosion. It is true that this numbness had not the significance attributed to it by the patient, but he could not be expected to know that. We get also the explanation of the stuporose condition in which he often wakened up—a similar incomplete revival of his stuporose condition in hospital. His waking frightened is equally understandable, though the significance of the idea that there was something he must do is not so clear. We may connect it with the fact that the explosion cut him off in the middle of something he conceived to be his duty and with the desire to rescue his property, but it is possible that there was something still further behind it not connected with the war.

It may now be asked, what is the value of the procedure just described, apart from its theoretic interest, or what benefit is hoped for from it. The value of it is twofold.

In the first place, the patient is enabled for the first time to see clearly for himself what his situation is and has been. It is a principal object of all methods of psychotherapy which do not depend upon pure suggestion, to bring the patient to a clear appreciation of his actual situation and, necessarily, to do away with the false appreciation of it which is invariably present in his mind to begin with. The patient can now see that, whatever the secondary physical consequences of the condition may have been—and they are sometimes surprising—the condition itself is primarily a mental one. He can now see for himself (something quite different from being told it by someone else) that it is his state of mind and not his physical condition that calls for alteration and that not drugs or massage, but increased self control is required. It is true that some patients resist this conviction as long as they can, but this was not so in the present case. After a little time for reflection the patient said to me: "It was just a bad fright and, without knowing it, I have been cultivating fear ever since." This in itself, that is the increased insight, is a considerable gain.

In the second place, when such repressed memories are released from the inhibition which kept them from becoming conscious, they lose a great deal of their power to disturb the emotional life of the person concerned. So long as their conscious recollection is impossible, every time something happens which would or might under ordinary circumstances remind the patient of such repressed experiences (for example, in the present case, a thunderstorm), while the experiences themselves are prevented from appearing in consciousness as memories, the accompanying emotions tend to appear in force and with them there often come fragmentary hallucinatory reproductions of part of the experiences themselves (for example, in the present case the sensations of numbness and powerlessness in the left leg). Hence it has been said with truth that "hysterics suffer from unconscious reminiscences." On the other hand, once such experiences have been admitted into consciousness and are retained there, they become subject to the wear and tear to which all our conscious memories are liable. They lose their emotional force. However much one may have been upset at some particular point in one's history, time will in the end blunt the edge of the experience, if

it remains in consciousness. The loss of a relative or friend, for example, may seem at first an unbearably heavy blow, but in the end the wound usually heals. So it is with these experiences, once they have become conscious. So long as they are kept out of consciousness they appear to be preserved indefinitely.

Thus treatment of the kind described benefits the patient twice over. First, in enabling him to see for himself where he is and second, in giving him less to control than he had before. Thus, for example, in the present instance the patient had always found it very trying to be out in a boat in rough weather, but, when I saw him two months after treatment, he told me that he had been out in such weather a little time before and he had been struck by the change in himself. The point was not that he could control himself better, but that it had suddenly occurred to him with a shock of surprise that he was not nervous—quite a different thing and unheard of previously. On the other hand he was still knocked up by thunderstorms.

One reason for selecting this case for discussion is that I am able to report the results of treatment a year later. In the beginning of this year I saw the patient again with this in view.

He told me that life was quite a different thing from what it was before. The troubles which affected his sleep had all disappeared, his leg was all right and he had lost a stone and a half in weight as a result, so he told me, of the hard work which he now did. He was a very big man and far too fat when I saw him first. Most of the time his nerves gave no trouble, but sometimes they did; in particular, he still could not avoid being upset by thunderstorms. However, such upsets were now transitory. Instead of lasting for weeks, as it used to do, the upset lasted only for a day or so and afterwards he was all right. For three months in the preceding summer he had been perfectly well. Thus one could sum up the result of treatment by saying that the patient had exchanged a condition of chronic nervous disability for a condition of health, punctuated, however, by transitory nervous attacks.

This brings me to the last point on which I wish to touch here. Why is it that a complete recovery can hardly be looked for immediately from a simple treatment of this sort at the present date, whereas during and just after the war first rate results were often obtained at once in the sense that all symptoms cleared up without remainder? At the present time the patient always benefits to a greater or less extent, so far as my experience goes and complete recoveries do occur, but usually there is more or less trouble left behind which he may or may not succeed in overcoming. I think that probably there are two reasons concerned in this—apart from the question which naturally comes in, of the patient's previous intelligence and character. Perhaps these two reasons are really at bottom one and the same.

The first is that a neurosis unfortunately does not stand still. It goes on developing or tends to go on developing as long as it lasts. It thus becomes more firmly rooted in the mental life of the individual, and a simple treatment like the method of abreaction just described which would or might have been sufficient if it had been done at once, fails to meet the situation years later. One may hope that in any subsequent war in which such traumatic experiences are sure to be common, no such weak points will be left in the minds of those who have been shocked. In the meantime one must do one's best for those who suffer from them now.

The second reason for incomplete recovery after abreaction probably underlies and is intimately connected with the reason just mentioned. In a number of these cases the effects produced by the war shock itself were in large measure dependent upon repressed experiences antedating the war, for example, on repressed infantile experiences. These had possibly led to no trouble or no perceptible trouble from the patient's point of view previously to the war, nevertheless they awoke under the strain of war or under emotional shock, exactly as the effect of the dump explosion awoke in the present patient when water was thrown on his back. One might put it roughly that the war shock broke through to them or made a hole in the patient's unconscious defences against them through which they could boil over. One gets the impression that many war neuroses approximate more and more, as time goes on, to the civilian types in which such infantile experiences seem usually to play the predominant part. It is indeed possible that the presence of such preexisting weaknesses (weak places) in greater measure in the mental make-up of the individual is what distinguishes the persistent war neurosis from those (and there were many) which showed a strong tendency to clear up for all practical purposes with the cessation of hostilities and the reestablishment of civilian interests and occupations. In any case, where such weaknesses are present in some force, the abreaction of the war trauma is necessarily insufficient wholly to clear up the condition. Troubles remain requiring effort on the patient's part to overcome them. The year before last I had an interesting case from this point of view.

This was a man who was dumb and out of control of himself when I first saw him, as a consequence of a shock received some months previously which had brought all his old war troubles back again in their original force. I abreacted his war shock as described above and the immediate effect was excellent. The patient, who had suffered continuously since the war, regarded himself as cured. That was not my opinion, however. I regarded him as very much improved and possibly convalescent. Six months later he consulted me once more. He told me that while he was very much better, indeed well in every other respect, yet a great deal of nervousness remained, enough to prevent him from returning to his prewar occupation. He had tried to get this under control, but had not succeeded. I therefore took him in hand again and investigated the causes of this nervousness, using the method of Freudian analysis. In the course of this second investigation which lasted four months, the war was scarcely touched upon at all. It rapidly resolved itself into an investigation of the patient's earliest years. The result was very satisfactory, the patient getting rid of his nervousness and returning to his work immediately. I may add here that I saw this patient a few months ago, nearly two years after treatment. The result may be described as really excellent. Not only has the patient lost his nervousness, but he has improved mentally in a variety of unexpected ways.

Unfortunately, an investigation into infantile experience cannot be carried out in every case. It requires a degree of intelligence and determination in the patient not always found either in civilian or

war neuroses. It demands a higher degree of intelligence and determination in the case of a man drawing a pension who suffers no pecuniary loss if he yields to the temptation to obstruct the treatment, and, on the other hand, stands to lose by the reduction of his pension if recovery is not complete, than it does in the civilian type of case, when the patient pays for treatment or may be in such a position that he must get well as soon as possible if he is not to lose his livelihood. For these reasons psychoanalysis in the proper sense of the term is of no use in probably the majority of war neuroses.

Supposing we now apply these considerations to the present case. A glance at the notes of the patient's condition when treatment was begun will show that there were many points in it not easily explained by reference to the war experience. For example, take his fear of people under the house at night, his dreams about his left arm being "slithered off" (a scarcely mistakable infantile idea from my point of view), about being attacked by five or six men *et cetera*. Of all his dreams, the "kicked to pieces" dream is perhaps the only one which seems to contain a direct reference to the war experience. He himself also told me that one of his troubles was, that a number of characteristics of his, for example, his suspicious temperament and his sensitiveness, which were recognizable but gave no special trouble before the war, had increased upon him and become disagreeably difficult or impossible to control since the onset of his principal trouble.

The upshot is that this patient is left, even after the abreaction of the war shock, with a weakened emotional control. He is left with weaknesses which have to be overcome if he is to be again what he was. In my opinion such a patient should be given time, so far as his pension particularly is concerned, in which to overcome them.

Perhaps I should add in conclusion, that this case is a good one for the purposes of the foregoing discussion. I do not intend to assert that all cases are exactly similar. In my opinion the patient misstated nothing and exaggerated nothing in his account of himself to me. It is easy unintentionally to confuse a man in his nervous condition and one may then get the impression that the man is deceitful or at least untrustworthy. It is easy, sometimes it is unavoidable, to arouse his hostility, since the contradiction between the patient's feelings and the doctor's physical findings appears at first sight irreconcilable. But in the present case I should say that in the end the patient was fully justified on the facts. This is, of course, not true to the same extent of all cases, though I believe it is true of most of them. However genuine an hysterical condition may be in itself, a patient may malinger over it. He may make something which in itself is not much, an occasion of much complaint—just as a man with an actual wound or any kind of injury or disease may do. Still, I have the impression that our error at present is more apt to be in the direction of underestimation than of overestimation of the hysteric's difficulties.

THE RELATIONSHIP BETWEEN THE HISTOPATHOLOGY AND THE PROGNOSIS IN CARCINOMA OF THE STOMACH.[1]

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THE commonly accepted teaching in a condition diagnosed as carcinoma of the stomach when the patient has a large palpable tumour in the epigastrium, is that the condition is inoperable and the prognosis hopeless. Particularly is this so when in addition there is pronounced cachexia.

The following case reported at the Alfred Hospital Clinical Society meeting on July 27, 1926, illustrates the fallacy of this dictum and the important bearing the histopathology of the tumour has to the condition found at operation and the patient's probable future.

Mrs. P., aged seventy-six years, gave a history of "indigestion" and epigastric discomfort with great loss of weight and strength for more than twelve months. Six weeks before admission vomiting commenced and this soon became constant and finally immediate regurgitation of any food swallowed occurred.

On examination the patient was found extremely wasted and cachectic, with a large, hard, irregularly oval mass in the epigastrium dull on percussion and somewhat movable. The tumour had first been felt by her doctor some months previously and she was then and subsequently pronounced inoperable by various medical men who had seen her. X ray examination showed the appearances usually associated with an obstructing pyloric carcinoma and investigation of the gastric contents revealed achlorhydria and a typical curve.

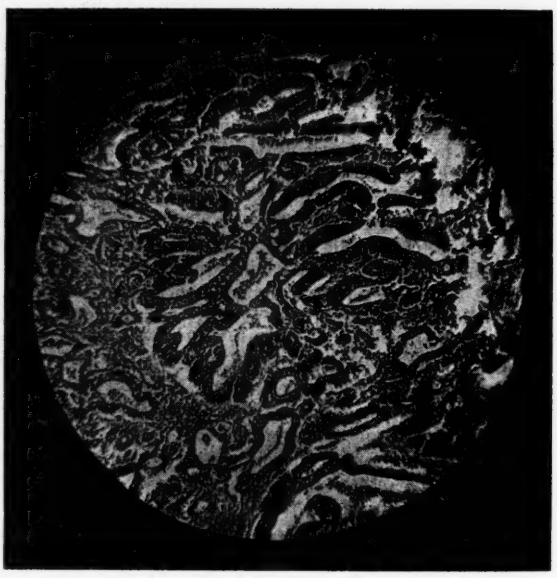

FIGURE I.
Showing Microscopical Appearances of Simple Columnar Adeno-Carcinoma removed from Dr. Trinca's patient.

[1] Read at a meeting of the Alfred Hospital Clinical Society on July 27, 1926.

In March, 1926, under local anæsthesia (1% "Novocaine") and without any preliminary injection of morphine operation was performed. A large growth involving the whole of the pyloric portion and the adjacent part of the body of the stomach was found, adherent to the pancreas posteriorly and below to the transverse colon. The liver was apparently free from metastatic involvement and no enlarged glands were visible or palpable. A partial gastrectomy was performed by the Polya technique, the greatest care being taken with hæmostasis. Difficulty was experienced in dissecting the pyloric end of the mass from the pancreas and with the lower border a small portion of the adherent wall of the transverse colon was resected.

The patient felt very little discomfort during the operation and had an uninterrupted convalescence except for delayed healing of her abdominal wound and a mildly infected hæmatoma. Since operation she has gained over 6·3 kilograms (a stone) in weight, has a normal appetite and can eat an ordinary meal without discomfort.

This was a case *par excellence* in which one would be justified in advising against operation and advocating euthanasia.

The tumour removed is an example of a neoplasm belonging to Group I. of the classification adopted in this article.

The following simplified classification embraces cases of *carcinoma ventriculi* examined during the last five years in the Alfred Hospital and from private sources and includes thirty-seven cases. They are arranged in order of relative malignancy, Group I. being the most benign.

Group I.—Adeno-Carcinomata—
(*a*) Simple columnar;
(*b*) Mucoid.
Group II.—Scirrhous Carcinomata.
Group III.—Medullary Carcinomata—
(*a*) Cardia and Fundus;
(*b*) Pyloric.

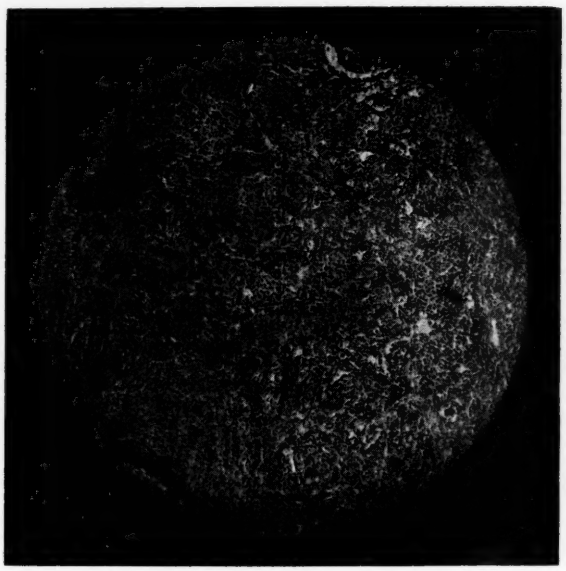

FIGURE III.
Microphotograph Showing Small Cell Type of Medullary Carcinoma.

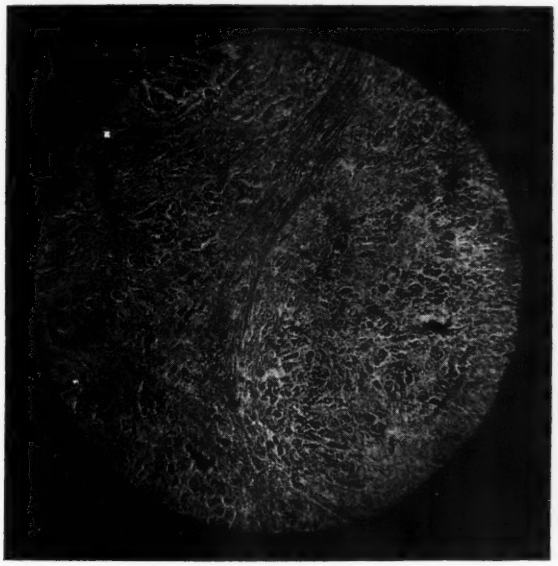

FIGURE II.
Microphotograph Showing Structure of typical Scirrhous Carcinoma.

Simple Columnar Adeno-Carcinoma.

The simple columnar adeno-carcinoma is the least malignant of all and resembles in its tendencies its prototypes in the *corpus uteri* and colon.

The great characteristic is the tendency to reach large dimensions before involving the regional lymphatic glands and other organs, although these are ultimately involved. The growth is bulky and irregularly nodular with a relatively smooth surface and of moderately hard consistency.

Occasionally there are isolated nodules in the neighbourhood of the main mass claimed by some to be multiple primary growths, but in such cases of this series examined, we have traced continuity between the large and smaller masses by submucous spread under intervening intact mucosa. The site is usually near the pylorus and there may be early obstruction by encroachment on the pyloric lumen rather than by secondary contraction. Deep ulceration is not common, the usual feature being a superficial inconspicuous surface destruction with no well defined ulcer edges.

Microscopically there is seen an exaggerated replica of the epithelial tubules which become elongated, tortuous and compound, but still remain lined mainly by more or less typical columnar epithelium. Spread occurs in the submucosa and remains for long in this zone with an ultimate slow invasion of the other coats (see Figure I.).

Mucoid Adeno-Carcinoma.

The mucoid or so-called colloid adeno-carcinoma resembles the simple columnar adeno-carcinoma in its relative benignity and its original microscopical structure.

Involvement of lymphatic glands is late and metastases in other organs uncommon. The great point of difference, however, and the progression in the scale of malignancy lies in the tendency to rapid infiltration of all coats of the stomach with often the appearance of nodules on the serosa and direct extension to contiguous viscera and the attached omenta. The growth is gelatinous on section, slimy to the touch and coated with a thick layer of mucus. Often there is concomitant ascites associated with the omental and peritoneal involvement. The site is nearly always pyloric and the obstructive tendencies the same as in Subgroup (*a*), but owing to the mucoid degeneration ulceration is more common and deeper.

Microscopically in the early stages the structure resembles the simple columnar carcinoma, but soon the lining cells become distended with mucus, break away from their acinar arrangement, fusing together and bursting. Ultimately all that are seen are vesicles of colloid outlined by fibrous tissue, the original structure being entirely lost.

Scirrhous Carcinoma.

The members of the group of scirrhous carcinomata include several varieties with the common features of slow progression, absence of ulceration, early pyloric stenosis and disparity between the size of the primary and secondary growths. There is a smooth plaque-like infiltration of all layers involving sometimes the whole extent of the stomach. *Pari passu* with this there is a secondary sclerosis as in scirrhous carcinoma elsewhere and the size of the stomach in part or whole may be reduced by contraction. All types exist from a localized pyloric plaque to a generalized "leather bottle" stomach or the so-called *linitis plastica*. It appears that there is in this group a local resistance to the cancer cell which is perhaps a cell of limited growth capacity.

The site of this group is to begin with pyloric and its progression in the scale of malignancy is shown by the tendency to wide extent and early and frequent metastasis and by the peculiarity of massive more cellular and active secondary growths contrasting strongly with a lowly cellular less apparent primary growth.

The omentum is usually involved and intraperitoneal transplantation to the ovary (often bilateral) frequently occurrs

Microscopically (see Figure II.) cancer cells are diffusely spread singly or in small groups throughout the coats of the stomach, the structure of which is distorted by the development of fibrous tissue. The appearance closely resembles that of scirrhous carcinoma elsewhere. In many cases the obliteration of cancer cells by the newly formed fibrous tissue is so great that a careful search of sections taken from several parts of the stomach has to be made before the diagnosis is established (see Figure II.).

Medullary Carcinomata.

Owing to their rapid progression medullary carcinomata are as a group the most malignant of all tumours of the stomach. Subgroup (*a*) those of the cardia and fundus, are soft ,deeply ulcerating circumscribed tumours, very vascular and bleeding with the slightest trauma. Growth extends rapidly through all coats and involves adjacent organs and metastasis in glands and other organs is early and constant. Subgroup (*b*), the pyloric, differ in location, but have the same tendencies as the above. This type is the common perforating carcinomatous ulcer.

Microscopically atypical spheroidal cells are arranged in lymph spaces and acini and vary greatly in size, shape and arrangement. Often the cells are very small and are arranged in masses resembling lymphoid tissue (see Figure III.).

No mention has been made in this classification of carcinoma arising in a gastric ulcer. This is a matter of great debate and the most recent workers on this subject incline to the view that carcinoma seldom arises in a simple chronic ulcer. A study of our sections of the latter fails to reveal any evidence of carcinomatous transformation.

Conclusions.

1. The surgeon should give due consideration to the histopathological findings in stomach cancer. As the case reported shows, a large tumour even in a patient with advanced cachexia is not necessarily inoperable. It may be a case of adenocarcinoma.

2. Every patient with a palpable tumour, when external examination fails to give evidence of visceral involvement, should be given the benefit of at least an exploratory operation.

3. The prognosis is grave in any case of cardiac, fundal or perforating carcinoma as the growth is usually of the medullary type.

4. The surgeon must not be misled in his prognosis by the small size of a scirrhous pyloric growth, the type that most frequently brings the patient early to the operating table. The seeds are probably already sown in the glands and viscera.

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Reviews.

RECENT WORK IN MEDICINE.

THE forty-fourth "Medical Annual," that for 1926, is to hand.[1] This book needs no introduction to the medical world. It is a valuable *résumé* of work done in 1925 in the several branches of medicine. It has been compiled by the collaboration of well known medical writers. The subjects are arranged alphabetically and in this way reference is made more easy. Although the book is devoted largely to clinical and therapeutic considerations, ætiology and pathogenesis are not overlooked. Illustrations in connexion with the more important subjects have been reproduced from various journals and add to the completeness of the work. In other words this volume maintains the high standard set by its predecessors. It can be confidently recommended to all medical practitioners.

[1] "The Medical Annual: A Year Book of Treatment and Practitioner's Index"; Edited by Carey F. Coombs, M.D., F.R.C.P. and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.S.; 1926. Bristol: John Wright and Sons, Limited. Demy 8vo., pp. 879, with illustrations

The Medical Journal of Australia

SATURDAY, NOVEMBER 6, 1926.

The Functions of Hospitals.

It will have been noted that at its last meeting in August the Federal Committee of the British Medical Association in Australia received a mass of information concerning the conditions of medical service in the public hospitals of the several States. This information is to be collated and submitted to the Committee in a form suited to the object in view, namely the devising of uniform conditions of medical service. The replies of the Branch Councils to the inquiries were replete with data of a very valuable kind. The inquiries were not taken quite literally, but were interpreted by several of the Branch Councils to cover all that pertains to the working of public hospitals as places where persons receive medical and surgical treatment for illness or injuries.

No useful purpose will be served by the consideration of this problem unless the Federal Committee is prepared to examine the relations of the public hospitals to the community and to make allowance for the changes that have taken place during recent years in the popular conception of the functions of these institutions. The fact that two State Governments invited the American College of Surgeons to send Dr. Malcolm MacEachern to examine the hospital systems in their respective States and to advise them in regard to the best methods to be adopted under the conditions obtaining in Australia, is significant. We hope soon to be in a position to publish an article by Dr. MacEachern on his experience in Australia. This experience will be of great value to the medical profession in arriving at a decision whether or not its hospital policy must be revised.

The first matter to be examined is whether the public hospitals will remain institutions where people who cannot afford to pay for the necessary medical, surgical and nursing treatment during illness, may obtain it free of charge. There are some facts that must be faced. The first is that the day has passed when the public hospitals were places reserved for the indigent classes. In the old country by gradual stages the *clientèle* of the voluntary hospitals has been enlarged. Simultaneously great infirmaries have been established under the poor law for the treatment of paupers suffering from chronic disease and for the care of those who have become infirm from old age and senile decay. The idea of the hotel in which the religious orders gave protection, bodily and spiritual succour and often financial assistance to all in need, gave room long ago to the voluntary hospital when medicine and surgery became sciences. At a later date a further change in the larger public hospitals in university cities was effected. The old apprentice systems sufficed while medical practice was based on opinions and superstitions, but with the introduction of more exact methods of diagnosis and the study of pathology, clinical schools were needed for the education of medical students. Little by little the cost of maintaining a modern hospital has increased. Laboratories, special departments, expensive instruments and apparatus and trained nursing contributed to the increased cost. The boards of management were compelled to discover new methods of raising the revenue of these monster establishments. The public responded well in England to the appeal for funds to keep the voluntary hospitals going. The out-patient department served as a bait. The boards of management advertised the fact that thousands of persons were seeking treatment as out-patients and the charitable dipped more deeply into their pockets. But it soon became apparent that the majority of those who were utilizing the out-patient departments, were quite able to pay for the treatment elsewhere. The medical profession demanded the introduction of a system of control to prevent this abuse. The hospital authorities, realizing the propagandist value of large numbers of out-patients, took care to render the control futile. The London Hospital boasted of an annual out-patient attendance of half a million. No one believed in the fairy tale that hospitals were places for the indigent sick. Well-to-do people at first put on shabby clothes in order that no questions might be asked when they appeared at the hospital. Later they became bolder.

Industrial firms contracted with the hospital authorities; in return for an annual contribution all the employees became entitled to free treatment. As the cost of institutional treatment rose, so the number of those who could not afford the same treatment elsewhere, increased rapidly. The pinch of poverty impelled the boards of management to demand some return from the patients. At first the patients were asked to make a voluntary donation to the funds before leaving the institution. Later when it was evident that the majority of the patients were far from being indigent, a charge for maintenance was made and was remitted only when the patients had no means or when nobody or no organization was responsible for their maintenance during incapacity from illness. The introduction of national health insurance and to a lesser extent of workmen's compensation led to further changes in the nature of the public hospitals. Today it must be recognized that there will be no turning back. The hospitals are being used by all kinds and conditions of men. In Australia the charitable contribution has dwindled because the burden of upkeep and administration has been taken over to a large extent by governments. The patient in the great public hospital is in a much better position in regard to facilities for special examinations and treatment than any private patient in a private hospital. How can one blame a man if he seeks admission to a hospital where he can have the advantage of modern treatment by the most skilled medical practitioners, even if he can afford to pay his family doctor his ordinary fees? The hospital authorities charge him for maintenance and the visiting medical officers are content to treat him without fee. In many instances the medical practitioner is directly at fault, for he induces the patient to enter the hospital on account of the provision of those facilities of which mention has been made above.

There is one other aspect of the hospital question that must be recognized. An increasing amount of ward space is being devoted to surgery and much more money is being spent on equipment in the surgical theatres and wards. In fine the hospitals are being used largely as places where costly operations are performed with the result that more and more people are induced to use these institutions.

If this brief survey be accurate, it indicates the future of the public hospital. Whether the medical profession like it or revolts against the movement, the hospital of the future will be open for all who care to use it. The policy of the medical profession must be based on a recognition of this prospect.

Current Comment.

RIEDEL'S STRUMA.

In 1896 Riedel described a condition of the thyreoid gland in which the whole organ was converted into an exceedingly hard and adherent mass. The condition was a chronic one and it was not accompanied by any of the signs of malignant disease—cachexia, involvement of lymphatic glands or metastasis. It was regarded as a chronic inflammation. In 1912 Hashimoto described three cases in which the acini of the gland were largely replaced by numerous lymph follicles with prominent centres. He concluded that the condition of these three glands was not similar to that described by Riedel, but was a distinct entity. Ewing found four cases in which the findings of both Hashimoto and Riedel were exemplified. In two of them an extensive and peculiar sclerosis had overtaken and largely replaced the lymphoid tissue. He holds that Hashimoto and Riedel described the early and late stages of the same pathological process. Ewing's description is clear and definite. In the early stages the gland is thickly beset with very numerous lymph follicles with active centres, the reticulum cells of which become so numerous as to suggest lymphosarcoma. The persisting reticulum cells incarcerated between the hyaline strands of fibrous tissue yield a picture resembling small celled alveolar carcinoma. He points out that all stages of atrophy of the alveolar epithelium can be traced. Fibrosis and hyaline transformation begin early and eventually the enlarged gland becomes firm and dense as in the type of case described by Riedel. The specific features of Hodgkin's granuloma are missing. In 1925 Dr. A. F. Bernard Shaw and Dr. R. P. Smith described six cases of what they called Riedel's chronic thyreoiditis.[1] These cases formed a series illustrating successive phases of the condition and they confirmed the conclusions of Ewing in regard to the inclusion of Hashimoto's *struma lymphomatosa* as its early stage. A more recent series of cases has been reported by Dr. L. W. Smith and Dr. H. M. Clute.[2] They refer to the condition as chronic ligneous thyreoiditis. It is well to point out that it has been described under a variety of names. These include: primary chronic canceriform inflammation, primary chronic inflammation, fibrous degeneration, benign granuloma, chronic productive thyreoiditis, lymphadenoid goître. The cases reported by Dr. Smith and Dr. Clute are five in number. All the patients were women aged from forty-nine to sixty-seven years. The findings are regarded

by these two observers as confirming the conclusions of Dr. Shaw and Dr. Smith.

In regard to this somewhat rare condition two aspects call for special consideration, the question of the diagnosis and the nature of the condition. The signs of Riedel's struma in the advanced stages are so definite that it is almost impossible to make a wrong diagnosis. In four of the cases reported by Dr. Shaw and Dr. Smith the clinical diagnosis was malignant disease. The stony hardness of the thyreoid gland suggests the presence of malignant change, but in Riedel's struma metastasis does not occur and cachexia is absent. Extracapsular extension usually occurs at an early stage and may be found on histological examination before it is recognizable clinically. When the condition becomes advanced, adhesions are formed to the trachea, the blood vessels, nerves and muscles. Even after removal of the tumour diagnosis may be difficult. Dr. Smith and Dr. Clute point out that one of the most likely mistakes in the early stages is the interpretation of the lesion as a tumour of lymphoid origin. They regard it as quite probable that some cases reported as lymposarcoma of the thyreoid may eventually have turned out to be in reality Riedel's struma. Dr. Shaw and Dr. Smith draw attention also to another possible source of error. With the progressive glandular destruction and fibrosis the centres of the lymph follicles persist for some time and their inclusion in hyaline fibrous strands produces a picture very like carcinoma. Epithelial hypertrophy is evident and in addition adenomatous foci of compensatory regeneration appear. In one of the cases reported by them the presence of these changes resulted in a histological diagnosis of carcinoma which was afterwards found to be incorrect. Reference will be made again to these hyperplastic changes.

Most writers regard Riedel's struma as being of inflammatory origin. Syphilis and tuberculosis which have been suggested as causative factors, may be excluded. Dr. Smith and Dr. Clute refer to an hypothesis advanced by Meeker that the source of inflammation may be a nasopharyngitis or tracheitis which gains access to the thyreoid gland by a persistent postbranchial body or fœtal rest. The case reported by Meeker is the only one in which this anomaly has been found. Dr. Smith and Dr. Clute sought for evidence of such a structure in their cases without result. At the same time they admit that their search was not exhaustive. They made attempts to grow organisms by culture from material removed at operation. The usual laboratory media were used and the material was ground up with salt solution. In no instance did any growth result. They also made a saline solution emulsion of the tissue and injected it into the thyreoid glands of three rabbits. In none of the animals did the characteristic histological picture develope. Control animals were used. These experiments obviously do not prove anything of great importance. Dr. Smith and Dr. Clute regard them as satisfactory in that they exclude from the causation any specific organism among the commoner infective agents. Opposed to the view of the inflammatory origin of the lesion is that according to which it is an overgrowth of lymphoid tissue. Dr. Shaw and Dr. Smith point out that there are several difficulties in accepting this view. In the first place lymph follicles are known to form in the presence of chronic inflammation. In the second place lymphoid foci may form in various affections of the thyreoid, but especially in Graves's disease in which the gland cells are active. In Riedel's struma the gland cells are also active and the presence of lymph follicles is probably to be associated with this state. They think that the lymphoid follicles divert attention from other changes which are essentially of a chronic inflammatory nature. Thus in one case in which no lymph follicles were present, rapid and extensive destruction of the parenchyma had taken place and a definitely granulomatous tissue likely to be mistaken for sarcoma had formed. Plasma cells are always present and in much larger numbers than are found in lymphoid tissue. This is in favour of an inflammatory process. Other facts pointing in this direction are the extracapsular extension, the spontaneous recession of the tumour and retrogression after imperfect removal. Although the majority will probably accept the view that this condition is inflammatory, consideration must be paid to the recent and important work of Williamson and Pearse on the physiology of the thyreoid gland and on the classification of its tumours. This has been discussed on several occasions in this journal. Reference has already been made to the hyperplasia occurring in the early stages of Riedel's struma. Williamson and Pearse evidently attach much importance to this for they regard Riedel's struma or as they term it, lymphadenoid goître, as being the "physiological subnormal gland undergoing compensatory hyperplasia." They regard it as but slightly probable that Riedel's struma is a granulomatous reaction to a specific infection. They consider the condition to be "a true hyperplasia with all the natural attributes of that state in its relations to neoplasia." Riedel's struma is characterized by a true hypertrophy peculiar in the quantity of lymphocytic activity. The lymphocytic reaction in their opinion is proportional to the failure of the hyperplastic effort and is itself an exaggeration of the normal procedure in the gland. They carry their view to its logical conclusion and hold that the strain induced in the endothelium which seems to produce the lymphocytes, can go on to create a definite neoplastic condition whereby endothelioma and fibrosarcoma arise as focal changes in the Riedel's struma in much the same way as adenopapilliferous cancer can follow the simple hyperplasia. Such an occurrence, of course, is not in keeping with clinical experience. All all Dr. Smith and Dr. Clute can find but thirty-five cases reported in the literature and it is quite possible that in some cases fibrosarcoma may form. If this is so, it is difficult to understand why improvement should result from partial removal.

[1] *The British Journal of Surgery*, July, 1925.

[2] *The American Journal of the Medical Sciences*, September, 1926.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

The Treatment of Dacryocystitis.

J. M. WEST (*Archives of Ophthalmology*, July, 1926) emphasizes the failure of the usual methods of treating dacryocystitis. Even after successful removal of the sac the patient is often troubled by epiphora; when the condition is complicated with phlegmon or fistula, removal is often unsuccessful. In 1904 Toti described his dacryocysto-rhinostomy in which he made a connexion between the sac and the nose through an external incision. He claimed success in about half the cases. This method gives the best result in the rare condition of ectasia of the sac, but is not well adapted to the condition when associated with suppuration or fistula. On the other hand the intranasal operation is suitable to all the varieties of dacryostenosis, whether mild or severe and results in 90% cures. The author has evolved his operation during the last fourteen years working with Silex in Berlin. He has performed more than sixteen hundred intranasal operations on the lachrymal apparatus. He has improved his technique and has rendered it possible to perform intranasal total extirpation of the lachrymal sac. A large flap of nasal mucous membrane is turned aside (not removed) from the region of the lachrymal fossa and hung over the inferior turbinated bone which is left intact. Bone is laid bare from the *appatura pyriformis* to the posterior boundary of the lachrymal fossa. The bony wall of the fossa is removed with chisels and the sac exposed. The nasal wall of the sac is then incised or the entire sac removed. The conjunctival sac is found to be freer from organisms after the nasal operation than after that by the external route. The operation is performed under local anæsthesia and is suitable for children.

Sympathetic Ophthalmitis.

B. W. KAY's patient was a man of forty-eight from whose right eye a piece of steel was extracted by a magnet four days after its entrance (*American Journal of Ophthalmology*, August, 1926). He was discharged in six weeks with vision normal in both eyes, but the eyes were very sensitive to light, especially the right. Eleven days later there were signs of iritis and spots on Descemet's membrane in both right and left eye; at the same time vision remained normal. This however, deteriorated and after four weeks the right eye was removed. In addition to the usual treatment for sympathetic ophthalmitis the right antrum was punctured and the ethmoids were opened and drained. Both were found to be full of pus. A few days later the vision improved to $^{20}/_{200}$, but again deteriorated in five days. Again the sinuses were explored and the ethmoidal cells were found to be infected; they were partially exenterated, free drainage being established. The vision improved to $^{20}/_{70}$, followed by a second relapse. For the third time the sinuses were opened up including the sphenoidal sinus and the eye responded well until in a few weeks the vision returned to almost $^{20}/_{20}$. A third relapse followed a middle ear and mastoid infection; after surgical treatment the sight was again restored. Included is an account of the pathological condition of the enucleated eye. The combined theory of anaphylaxis and infection seems to explain the clinical picture.

Trephining for Glaucoma.

R. C. DAVENPORT (*British Journal of Ophthalmology*, September, 1926) has examined five hundred and thirty-six records of glaucoma treated at Moorfields Hospital during the five years 1919-1923. Of these four hundred and five eyes were trephined for primary glaucoma, a few in the acute or subcaute stage, the majority in the chronic stage. They are tabulated in three groups according to the initial vision of the eyes. In the first group with nearly normal vision, one hundred and fifty-four in number, the treatment was successful in 80% and completely unsuccessful in only 4·5%. Of the seven failures three were from infection. Elliot's operation was used with a 1·5 millimetre trephine. In seven cases vitreous was lost, all in advanced glaucoma in senile patients. The trephine disc was lost in the eye three times, but produced no ill-effects. Quiet iritis followed in the majority of patients, but its effect on vision was very slight. There were fourteen late infections, but in eight only was the infection clearly through the trephine hole. There is little or no evidence that the trephine operation predisposes to cataract.

Ocular Complications of Raynaud's Disease.

S. J. APPLEBAUM AND M. L. LERNER report the case of a married woman of forty-five with pain in the fingers of the left hand (*American Journal of Ophthalmology*, August, 1926). At first there were red streaks in the tips of the fingers, but later there were frequent attacks of congestion of the distal half of the fingers. She had two attacks of migraine associated with temporary loss of memory. There was also present ocular pain and examination revealed bilateral choked disc with hæmorrhage and exudates. Retinal arteries were extremely narrow, especially near the nerve head. During observation the eye condition cleared up, but the patient lost the distal phalanx of the left index finger from dry gangrene.

Lateral Hemianopsia.

ALFRED WIENER (*Archives of Ophthalmology*, July, 1926) has devised an arrangement of prisms to be worn as spectacles by a patient suffering from lateral hemianopsia. The prism used is a solid isosceles right-angled triangle. By total internal reflection the hypotenuse acts as a plane mirror. An illustration shows the device which was appreciated by the patient.

LARYNGOLOGY AND OTOLOGY.

Tonsillomycoses.

ALDO CASTELLANI (*New Orleans Medical and Surgical Journal*, April, 1926) discusses acute and chronic tonsillomycoses. He details the many different fungi he has found involving the tonsils, with their cultural peculiarities and staining reactions. The author considers that tonsillomycoses are not very rare and he has found cases in England and Europe as well as in tropical climates. Chronic tonsillomycoses have been previously studied and recognized, but acute tonsillomycoses should be more thoroughly investigated, as clinically it simulates a diphtheria or acute follicular tonsillitis and may be of a very severe nature. One of the author's patients, a Cingalese girl, aged eleven, died from an infection by *Monilia tropicalis* (Castellani).

The Nasal Passages in Lobar Pneumonia.

A. R. FELTY AND C. A. HEATLEY (*Journal of the American Medical Association*, April 17, 1926) give the results of their observations of the nasal passages in sixteen patients suffering from lobar pneumonia. Darling in 1906 had shown that *post mortem* signs of acute inflammation of the nasal sinuses were present in 90% of a series of pneumonic cases. In the present series eight only were examined by X rays. All were examined locally and swabbings were taken from the middle meatus. Of the eight patients examined by X rays seven manifested cloudiness of one or more nasal sinuses. The eighth manifested no abnormality, but this patient was not submitted to X ray examination until two days after his crisis had occurred. Cultures from the middle meatus of the nose contained pneumococci of the same type found in the sputum in all cases. In no instance were pneumococci found in the nose during convalescence. The authors find that from this small number of examinations it is impossible to form an opinion as to whether this nasal infection is a forerunner or complication of the lung condition. They point out that in view of these findings nasal swabbings from patients will probably be useful in determining the causal organism in pneumonia when a specimen of sputum is not obtainable.

Herpes Zoster Oticus and Allied Conditions.

THOMAS GUTHRIE (*The Lancet*, April 3, 1926) discusses *herpes zoster oticus* and reports two cases of the condition and one of *herpes facialis* with eighth nerve involvement met

with in his practice. The geniculate ganglion of the facial nerve is the site of the herpetic inflammation and results in a vesicular eruption, limited to a cone shaped area with its apex at the tympanic membrane and its base at the auricle. Owing to the close anatomical association with the motor fibres of this nerve facial paresis is always present. Further, both the vestibular and cochlear divisions of the eighth nerve may also be involved, causing nerve deafness, tinnitus, vertigo and vomiting. The *chorda tympani* nerve also is involved, causing loss of taste on the same side of the tongue. The condition is a rare one, but may be mistaken for a severe *otitis media*. Points in differential diagnosis are: nature and distribution of eruption, type of deafness present, lateral loss of taste, absence of definite drum perforation. The prognosis is usually good, the duration is uncertain. Rarely nerve deafness and/or facial paresis is permanent.

The Function of Aural Cerumen.

E. ff. CREED AND V. E. NEGUS (*Journal of Laryngology and Otology*, April, 1926) discuss the function of aural cerumen. They detail the structure of the ceruminous glands and the microscopical appearances and chemical analysis of cerumen. Ninety-two apparently normal people were examined and of these sixty-nine were considered to have normal ears for observation. Cerumen is usually greater in amount, darker in colour and harder in consistency in males than in females. Age of the patient has no bearing on the findings. New light coloured wax on culture revealed few organisms; dark wax yielded profuse cultural growths. Organisms cultured included all the common forms, also the *Bacillus sarcinæ*. Cerumen is definitely non-bactericidal and is evidently a good pabulum for microorganisms. Its only function appears to be the mechanical prevention of the entrance of dust, insects *et cetera* to the deeper parts of the meatus.

Chordoma of the Cervical Vertebræ with Involvement of the Pharynx.

W. S. SYME AND D. F. CAPPELL (*Journal of Laryngology and Otology*, April, 1926) report a case of chordoma of the cervical vertebræ involving the pharynx. They review the history of research into tumours of chordal origin. Investigation has established the embryological basis of these growths. The patient was an apparently healthy man, aged fifty-nine years. He complained of shooting pains in the neck on head movement for two months, when the neck became stiff and pain disappeared. Dysphagia, dysphonia and slight loss of weight were then noted. Examination revealed a large, firm, lobulated, smooth swelling of the posterior pharyngeal wall which exerted tension on the pharyngeal mucous membrane. A provisional diagnosis of retropharyngeal lymph gland sarcoma was made. At operation the growth was exposed by incision along the anterior border of the left sternomastoid muscle. No enlarged glands were encountered and the growth was found to be encapsulated anteriorly and laterally, but firmly attached to the second, third and fourth cervical vertebræ. Separation from the latter was difficult and was followed by diathermic application. The cavity was packed with bismuth, iodoform and paraffin paste and the wound was closed with a small drain. Microscopical examination showed the growth to be a malignant chordoma. Recovery was uneventful and the patient was well and gained weight for six months, when dysphagia recurred. A second operation similar to the first was performed, but was more difficult owing to cicatrization and extension of the growth. The patient died of septic pneumonia three days later. An autopsy showed that the tumour commenced at the third cervical vertebra and had extended to the second and fourth; while the soft tissue invasion was greater extending from the base of the skull to the level of the fifth cervical vertebra. The microscopical findings are recorded at length and are illustrated.

Suppuration in the Mastoid Cells With an Intact Tympanic Membrane.

H. BELL TAWSE (*Journal of Laryngology and Otology*, April, 1926) describes three cases of acute mastoiditis in which the tympanic membranes remained intact. In the first two the organism was the *Streptococcus mucosus* and in the third the *Bacillus influenzæ*. The first patient was a female, aged twenty-one. She had had a bad nasal cold with earache for five days. On examination slight deafness was found with no response to the Rinné test; the ear drum was retracted and the temperature subnormal. Three days later the temperature and pulse were slightly elevated and slight mastoid tenderness was elicited, but the drum appearance was unchanged. The mastoid was opened and bone of the cancellous type was found with the cells full of pus and greyish granular material. The second patient was a female, aged twenty-seven, who had recovered from acute tonsillitis; she then complained of sudden acute pain over the mastoid. The temperature was 38·3° C. (101° F.), the ear drum was injected, but otherwise normal. Slight deafness was noted with no response to the Rinné test. Next day the mastoid tenderness had increased and the mastoid was opened. Large cells full of greyish, bloodstained pus were exenterated. The third patient was a male, aged twenty, whose illness commenced with rigor, frontal headache and pyrexia. A diagnosis of influenza was made. On the sixth day he was slightly deaf and had twinges of pain in the ear. On the tenth day slight mastoid tenderness was noted. Four days later there was some swelling with increased tenderness over the mastoid; the temperature was 37·2° C. (99° F.) and the pulse rate 90. The tympanic membrane appeared normal. The mastoid was opened and the cells were found full of glairy pus with a large extradural abscess present. From the latter *Bacillus influenzæ* was cultured, the antrum culture was sterile. Recovery was complete with return of normal hearing in all three instances.

The Radical Mastoid Operation and Hearing.

J. A. KEEN (*Journal of Laryngology and Otology*, March, 1926) reports in great detail his findings after investigating the hearing in sixty patients on whom the radical mastoid operation had been performed. The patients were between the ages of seven and sixteen and only those in whom a healed middle ear cavity was present, were tested. Two examinations were made, the first after complete healing and the second a year later. All tests were carried out by the author himself in the same room and watch, whisper, conversational voice and tuning fork tests were performed. The author has tabulated his findings under numerous headings and discusses these findings with a view to correlating them with hearing results. His conclusions are: (i.) The amount of hearing remaining after operation is quite independent of any points in the history previous to operation. Provided bone conduction remains good, the ultimate hearing has no relation to the duration of the middle ear disease. (ii.) Hearing tests prior to operation give no guide to postoperative hearing and further are unreliable owing to the changing condition of the otorrhœa present. (iii.) Findings at operation give no guide to the prognosis of hearing, except that the presence of cholesteatoma is a bad sign. (iv.) The most favourable type of postoperative cavity is large and lined by thin skin-like epithelium, cavities with mucous membrane type of linings gave the worst results. (v.) One-third of the patients had improved hearing at the second test, two-thirds retrogression. Bone conduction varied little. (vi.) Experience gained in this investigation leads the author to support Zimmermann's theory of sound conduction by way of the promontory rather than the orthodox Helmholtz theory.

The Common Cold.

DAN MACKENZIE (*Journal of Laryngology and Otology*, May, 1926) reports unexpected success in the treatment of acute nasal catarrh with "homœopathic doses" of iodine. The dose is 0·06 mil (one minim) of a 1% solution of pure iodine and water to which a little potassium iodide has been added as a solvent. The dose is well diluted with water and is taken only once in twenty-four hours and repeated for three or four days if necessary. One dose in the early stage of a cold will completely abort it and the author has succeeded in "evicting" a cold which has been present three days.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on August 26, 1926, DR. R. J. MILLARD, C.M.G., the President, in the chair.

Fractures and Dislocations of the Spine.

PROFESSOR F. P. SANDES read a paper on the immediate treatment of fractures and dislocations of the spine.

DR. E. B. M. VANCE read a paper on the orthopædic treatment of fractures and dislocations of the spine (see page 609).

DR. A. W. CAMPBELL in considering the neurological aspects of fracture-dislocations of the spine confined his remarks to the differential diagnosis between complete and incomplete lesions of the spinal cord as bearing on prognosis. He said that immediately following upon the injury the neurologist was unable to assist the surgeon with a declaration as to the degree of cord injury, because the clinical picture was obscured by the phenomena of "spinal shock," whereby simple spinal concussion or contusion might simulate complete lesion. When, however, the period of shock was passed the case eminently called for correct interpretation of the neurological signs.

In a case of complete spinal lesion it was recognized that there were two important stages, that of muscular flaccidity and that of reflex activity. The flaccid stage which lasted from one to three weeks, was characterized by paralysed, flabby, toneless muscles; absence of reflexes, superficial and deep; abolition of common sensibility in all its forms; dryness of the skin and susceptibility to gangrenous bed sores and lastly retention of urine and fæces.

In the stage of reflex activity, reflexes, many of them complicated, might be evoked from any part of the paralysed region. The first reflex to appear was a responsive movement of the limb, it might be slight only, to nocuous stimulation of the sole of the foot. Later, stimulation not only of the foot but of any part of the leg might cause a flexion reflex consisting of flexion at the hip and knee, dorsiflexion at the ankle and upgoing toes. And at the time when this flexion reflex was active that extraordinary excessive reaction known as the "mass reflex" might be evoked; its main components were flexor spasm of the legs and abdomen, sweating below the level of the lesion and evacuation of the bladder. At this time feeble knee and ankle jerks might be obtained, but never ankle clonus. Finally the bladder and rectum began to act automatically and the skin acquired a healthier tone so that bed sores might be induced to resolve.

Turning from this picture of the complete spinal lesion they could next look for signs of incomplete lesion. First, it went without saying that the return of any voluntary movement of cutaneous sensibility or functioning of the bladder had favourable significance. Secondly, position of the limbs might have meaning. When the lesion was incomplete, the legs inclined to lie extended, instead of flexed. Thirdly, a reflex movement corresponding with the "extensor thrust" of Sherrington inevitably betokened incomplete division, so did the crossed extension reflex. Indeed any reflex movement of extensor type might be taken as favourable, while flexor movements were unfavourable. Fourthly, it was believed that general activity of the defence reflexes indicated relative integrity of the pyramidal tracts, but there was one defence reflex which invariably denoted a complete lesion, namely slow dorsiflexion of the ankle following upon pinching the dorsum of the foot. Fifthly, the condition of the knee jerks in the two groups of cases provided a contrast. In the complete lesion the jerk was a mere twitch with contraction and relaxation phases of equal length; in the partial lesion on the other hand the phase of relaxation was distinctly slower and more deliberate, which was accounted for by the preservation of some postural tone. To sum up, the man with the completely divided cord and paraplegia in flexion was comparable with the spinal animal of the physiologist and the man with the incompletely divided cord and paraplegia in extension, with the decerebrate animal.

DR. N. D. ROYLE said that it was necessary to definie spinal shock. The surgeon had to decide whether or not the spine had been damaged beyond immediate recovery. Dr. Royle referred to experiments carried out by the late John Irvine Hunter and himself in the course of which they had injected saline solution into the spinal cord. All the signs of so-called spinal shock had appeared, but they had disappeared within fifteen minutes. They had also tied the arteries of the cord and had again noted the signs of spinal shock. After ligature of the arteries the signs did not disappear because the blood supply had been cut off and a myelitis had resulted. He contended that the signs of spinal shock appeared whenever the impulses were cut off from the higher centres. For this reason it was wise to operate immediately on all patients showing evidence of complete transverse lesion. It had been found that the production of sclerosis by a vascular lesion was just as effective a cause of the complete transverse lesion as was a trauma. In referring to the subject of flaccid paralysis, Dr. Royle stated that in its remittent form it was due to a degeneration of the grey matter of the cord. He admitted that the symptom complex of spinal shock as recognized by the surgeon was a real thing. In applying treatment for a spinal cord injury it was necessary to seek the evidence of the physiological disturbance of the spinal function.

Dr. Royle maintained that trauma in itself did not produce spinal shock. Sherrington had divided the cord and had shown that no signs of shock were produced. In conclusion Dr. Royle exhibited a cinematograph film of a patient who was walking after a complete transverse lesion of the cord.

DR. LENNOX G. TEECE stated that one class of injury had not been dealt with. In this condition the diagnosis was not immediately obvious, but had been made possible by the use of X rays. It was by no means uncommon for a fracture of the vertebra to occur without injury to the spinal cord. It was not recognized how small a trauma could produce fracture not only of the transverse processes, but even a crush fracture. A man working on the wharf shifting lumps of rock salt and heaving them into a cart, had made a sudden muscular effort to avoid falling. It was discovered that he had sustained a crush fracture of the first lumbar vertebra. Although this was undoubtedly a rare occurrence, it offered sufficient inducement to render it necessary to have a skiagram taken in all doubtful injuries of the back. In a second large group a history of a definite fall or blow was obtained. Frequently in the absence of definite signs of injury to the cord no X ray examination was undertaken and the patient was sent home with instructions to begin work after a week or two. It was when the patient started to work that trouble occurred. He would go on complaining for months and it was only after X ray examination that the true cause of the disability, a fracture, was discovered. No man who had sustained a fracture of the body of a vertebra, would be able to work in under eighteen months. Repair would necessarily be slow. Unfortunately many of these patients were suspected of malingering. He was loath to do anything surgical until a long period of rest had been tried. Albee's grafting method had been tried in several instances and he had obtained excellent results in one instance by inserting a graft spanning two spines above and below the lesion. The patient had lost his pain. At the same time it was a serious operation and should not be tried unless all other methods had failed.

DR. D. J. GLISSAN said that he had been particularly interested in the clear picture drawn by Dr. Campbell of the clinical findings in spinal lesions. It was remarkable how the symptoms of crush fracture persisted even though Kümmel's disease, rarefying osteitis of the spine did not develope. On the other hand in severe cases some of the late symptoms were undoubtedly due to rarefying osteitis. In conclusion Dr. Glisson showed a first aid collar splint which he had devised. It resembled a Thomas's collar and was made of ordinary saddler's felt reinforced with aluminium strips. It was placed under the chin and about the neck and fastened with tapes. He had found it very useful and it was easily made.

DR. P. FIASCHI, O.B.E., wished to call attention to the value of digital examination of the pharynx in dislocation

or subluxation of the upper cervical vertebræ. In a patient of his father with a dislocation of the second cervical vertebra treated some years previously at the Sydney Hospital, examination of the pharynx had revealed the deformity and this had subsequently been confirmed by X rays. In those cases when complete surgical anæsthesia was obtained, the dislocation reduced itself without manipulation. Dr. Fiaschi asked for an expression of opinion from those present as to what should be done in a case of gun shot wound of the spine, when there had been destruction of a portion of the posterior half of the dura, corresponding to two arches of the vertebral laminæ, without any injury to the cord. In a case of this description in France where about one and a half inches of the posterior part of the dura was destroyed, the only solution he could think of on the spur of the moment was to make good the defect by a piece of *fascia lata* in a similar fashion to the method for dealing with wounds of the longitudinal sinus.

DR. V. M. COPPLESON was interested in surgical treatment of fractures and dislocations of the spine. He did not approve of operation in all cases. In the consideration of all cases of fracture of the spine, the treatment differed materially in those in which there were cord lesions and those in which there were not. In the simplest type, the incomplete fracture of the spine, where only a portion of a vertebra was fractured without any involvement of the cord and the bony ring was left intact, very little treatment was required beyond rest. Where there was a fracture involving the bony ring with or without dislocation, but in which there was no cord lesion, fixation by splints or other means was essential. The treatment of fracture-dislocation with cord lesion was difficult. Operation should be reserved for all compound fractures and those cases with cord lesion and then only in incomplete fracture or in fracture-dislocation, when certain definite indications were present.

He was surprised that so little had been said concerning bed sores and bladder affections in association with these injuries. The treatment of the bladder conditions could be undertaken by several methods, an inlaying catheter could be used, but this was liable to give rise to a condition within the bladder analogous to a bed sore; suprapubic cystotomy could be tried, but this method often led to sloughing of the edges of the wound, repeated catheterization was particularly liable to be followed by infection, even when carried out with the utmost care. On the whole regular suprapubic pressure was probably the best method to employ, but this required the constant care of trained assistants.

DR. J. G. EDWARDS recommended anteroposterior and lateral skiagrams for upper cervical fractures of the spine. He had found that stereoscopic pictures were most useful for fracture-dislocation. In his experience the third and fourth cervical and first and second lumbar vertebræ were involved in over 90% of fracture-dislocations. It was difficult to obtain a clear picture of a lumbar lesion in a skiagram taken in the lateral position. A stereoscopic picture, however, would always reveal a lesion. It was abnormal to find normal fifth lumbar and first sacral vertebræ in this region. With the advent of surfing the neck fracture season could be expected within a short time. The majority of the patients had alarming paralytic symptoms, but recovered from these.

DR. B. T. EDYE said he had found the double Thomas's frame very unsatisfactory at the war, particularly for heavy patients as they rapidly developed pressure sores. In his experience patients suffering from a fracture dislocation with evidence of a complete cord lesion were nursed on a water bed with the feet supported to prevent foot drop and heel pressure. In cervical cases the head was supported between sandbags. Bladder catheterization was performed twice daily with extreme care until automatic action was established. In the presence of the signs of a complete transverse lesion of the cord he had never seen improvement after laminectomy. Operation if considered at all should be delayed until the condition known as spinal shock had passed off. The object of the operation was to relieve bony pressure on the cord, but usually such pressure could not be demonstrated.

In reply DR. VANCE pointed out that, in regard to Dr. Edye's experience of patients on a double Thomas's frame being difficult to manage, it was necessary for the surgeon to give close and unremitting attention to the problem especially in the earlier days on the frame. The management of any patient in a fixation splint was almost a small art in itself calling for minute attention to many details. Though difficult, the game was well worth the candle. Referring to Dr. Coppleson's point that the bed sores were the main problem, the same attitude must be taken; bed sores were largely preventible by minute attention to saving points of pressure by cotton wool rings *et cetera*. He regretted that the indications for laminectomy had not been dealt with in either of the papers, but he agreed with those who thought it was rarely required and not often successful. Only when there was evidence that the cord was not completely transsected and when the signs of pressure were steadily increasing after a period of observation should it be attempted. More efficient early fixation should lessen the number of cases requiring laminectomy.

DR. A. W. CAMPBELL thanked Dr. Royle for correcting him in regard to the question of spinal shock. He maintained, however, that even if there was no such physiological condition, there was a clinical one resulting from contusion which produced signs of paralysis that cleared up in a few days. He regarded Dr. Glissan's remarks on the bladder condition as very important. During the great war French neurologists recognized that these patients required a corps of specially trained men to look after them. In reference to Dr. Fiaschi's remarks notwithstanding their irrelevance, he pointed out that the spinal fluid could form a sort of covering which was capable of replacing the dura in exposed wounds of the brain.

A MEETING OF THE SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Lister Hall, Hindmarsh Square, Adelaide, on August 26, 1926, DR. H. H. E. RUSSELL, the President, in the chair.

Tonsils and Adenoids.

DR. W. SANGSTER read a paper entitled: "Tonsils and Adenoids in Children" (page 612).

Middle Ear Infections.

DR. E. A. MATTISON read a paper entitled: "Acute Middle Ear Infections in Children" (see page 615).

DR. R. H. PULLEINE said that it seemed a pity that such a carefully arranged protective mechanism as Waldeyer's ring should fail to function properly and even become dangerous as a portal for the entrance of pathogenic organisms which were picked up by the lymphocytes and deposited, still virulent and active, in distant parts.

It would be within the experience of most of them that the same course of events happened when the gonococci infected the male urethra which in spite of its admirable protective mechanism, allowed the cocci to pass and give rise to arthritis and iritis. What place the adenoid ring took in immunization was not yet definitely settled and especially in childhood it should be remembered as a guide for practice.

The recurring reaction to organism characterized by swelling and soreness in the throat in children were probably steps in immunization and as such should be respected, especially as they were often very transitory. They should not be made the occasion for radical measures without further indications.

The same held in a lesser degree for adults. Less than a century ago the great fallacy of venesection for all and every ill which had been the practice for a thousand years, was abandoned in the light of new knowledge and similarly the surgeons of the twenty-first century or earlier might find that present day practitioners had been guided by a great disastrous fallacy in subjecting tonsils and adenoids to wholesale extirpation, a practice which had only had a currency of less than fifty years. It had been said that there was a close season for most kinds of game, but no close season for the tonsil.

Dr. Pulleine confessed to being a heretic as regards the faith in the necessity for extensive surgical interference. While frequently the indications demanded absolute extirpation, he was convinced from his experience, notably with medical men as patients as well as hæmophiliacs and others, that carefully carried out conservative treatment would reduce hypertrophy and effectively close the tonsillar tissue against being a *via media*.

If the advantages of simple conservative treatment (if carried out with proper technique in suitable cases) were considered, practitioners would pause before advising tonsillectomy in children and adults for mild or infrequent infection.

When the occasional dangers were considered of hæmorrhage irrespective of the method and skill of the operator, sometimes fatal, danger from anæsthetics and from pulmonary complications, bronchitis and abscess, it would be well to tighten up the indications for radical treatment and to use the less dangerous and equally efficient conservative treatment for the milder forms of pathogenic infection.

This method was after thorough local anæsthesization of the tonsils by means of woollen plugs introduced into each crypt, to dilate the crypts to the very bottom, clean them out with "Mercurochrome" or "Zonite" and then introduce into each one an applicator armed with anhydrous trichoracetic acid.

When this was carried out with exactness, good results were obtained and twenty years' experience showed it to be permanent in a high proportion of cases.

DR. F. N. LE MESSURIER referred to Dr. Matison's remarks about mastoiditis in infants and emphasized the fact that it was extremely difficult to be certain of the diagnosis. Dr. W. McKim Marriott at St. Louis Children's Hospital had stressed on every possible occasion that diarrhœa, vomiting and fever in the infant was due in the majority of cases to parenteral infection. Experience at "Mareeba" Babies' Hospital seemed to confirm this view. In some cases after the tympanic membrane was opened freely, the gastro-intestinal conditions improved; in other cases, however, there would follow a rise in temperature and a return of diarrhœa and vomiting and these symptoms would not clear up after reopening the drum head. In these cases after the performance of a simple mastoid operation, the symptoms would disappear. The decision to operate should be based upon the clinical course of the patient, chiefly on the temperature and continuance of digestive disturbances.

Byfield in Abt's "Pediatrics" stated:

> It is not common to consider the mastoids other than as secondarily infected from middle ear disease. A recent experience with very young infants, however, has seemed to confirm the reports of certain French clinicians, who have assumed that the infected mastoid antrum may lead to severe gastro-intestinal and grave nutritional disorders. After seeing three infants under two months of age die of gastro-enteritis, dehydration and acidosis and finding in each of them at autopsy infected mastoid antra drainage of this area was carried out in six other infants of this age, one being less than eighteen days old. A double parantesis had failed to save the third one of the infants first mentioned. All but one of these babies were saved, although several were in such serious condition that their survival was not hoped for. In the case of one of these infants it was not thought possible that he could live through the night, much less endure the operation.

Daniels and Armstrong had shown in animal experiments that sinus and mastoid infections occurred when the fat soluble vitamin was omitted from the diet. It was not sufficiently appreciated that confined infection in infancy might cause an acute disturbance with symptoms almost wholly referable to the gastro-intestinal tract and frequently leading to death if infection was not found and treated. Was it appreciated that such infection was usually located in connexion with the upper respiratory tract?

In reference to Dr. Sangster's paper it should be remembered in the diagnosis of throat infections that young children only exceptionally complained of sore throat and that in infancy a folliculous tonsillitis was a rarity and in early childhood it was relatively infrequent. In the differential diagnosis it was the rule that unless there was an evident pneumonia, the condition was called "intestinal trouble." Intestinal trouble caused little or no fever in older children and even in babies only when there was true intoxication or dysentery present. There could be no two opinions as to the value of adenoidectomy at any age in repeated infections, in insidious deafness, in nocturnal restlessness, poor appetite and malnutrition. It was irrational to place any age limit below which the operation should not be done. In infants and young children the brilliant results that frequently followed the combined operation were due not to the removal of the tonsils, but to the relief that came from the removal of the adenoids.

The situation with reference to the tonsils was very different and not so clear. Whatever the condition might be in the adult and in the older child, the tonsil was not the atrium of infection, nor did it bear the brunt of it in young children and especially not in infants. The young child with one of these infections had an involvement of the mucous membrane of the whole throat, nasopharynx and nose, not a tonsillitis alone. The tonsil seemed early to be only a part of the whole lymphoid mechanism of the throat and nasopharynx. Later it apparently assumed the greater part of function of this mechanism and bore the brunt of the attack in these infections.

In tonsillectomy Dr. Sangster's remarks of a dead line at three years, a sort of relative line at four years and a choice of five years seemed very sound. In the case of the older child the tonsil did not deserve so much consideration, as should be given to it in early life and if there was any doubt as to whether it should come out or not, it should be removed. When diseased tonsils and adenoids had been removed, the symptoms indicative of operative procedure would not be abated, particularly if diseased accessory nasal sinuses were permitted to go untreated. Children, whose catarrhal symptoms did not subside after tonsillectomy and adenoidectomy, were in reality suffering from accessory nasal sinus disease.

DR. GERTRUDE HALLEY congratulated Dr. Sangster on bringing forward the question of enlarged tonsils and adenoids in children. This was very interesting to school medical officers. Since the reorganization of the Medical Branch of the Education Department approximately 60,000 children had been examined from all over the State. Of these about 15% had enlarged tonsils and adenoids that in the opinion of the medical officers required treatment. The reasons for notifying the parents that treatment was required were practically the same as those that Dr. Sangster had set down as indications for operation.

Dr. Halley expressed regret that frequently when parents had taken their children to the general practitioner for treatment, word was sent back that no treatment was required.

DR. HELEN MAYO who was unable to be present at the meeting, sent a contribution to the discussion. She regarded the subject as one of great importance to those whose work lay among children.

It had long been recognized that infections of any part of the body might give rise to intestinal symptoms and that these symptoms, especially in children, might dominate the picture. The relative importance of the digestive tract in an infant and its unstable nervous system had led to incorrect interpretation of symptoms in many instances. *Post mortem* examination of infants who had died of so-called gastro-enteritis, had revealed pyelitis, *otitis media* or disease of the mastoid antrum in a high percentage of cases.

In 1921 Renaud in France made a new venture and had began to treat the ear conditions which could be diagnosed, as if they were of primary rather than secondary importance. Later Marriott, of St. Louis, and others followed suit and a new conception of the cause of intestinal conditions in infants grew up. Dr. Mayo had been using this as a working theory for the past nine to twelve months and was convinced that it had proved of great value. All infants with attacks characterized by diarrhœa, vomiting, loss of weight, pyrexia, dehydration *et cetera* had been investigated from this point of view.

When an infant who was being carefully fed on a satisfactory diet manifested some of the above signs, it was considered that some other factor was at work, probably not related to diet and usually of an infective nature.

Examination did not always reveal this, but in numbers of cases the ear was involved either from nasopharyngeal infection causing blocking of the Eustachian tube or from *otitis media* or infection of the mastoid antrum.

All degrees of intensity were met with and varying types of symptoms. It was, however, of immense interest to note the immediate improvement in the intestinal symptoms when the local condition was treated. The remarkable thing was that this was true even when an external infection was present.

Dr. Mayo referred to a child, aged eighteen months, who had been admitted to the Babies' Hospital suffering from dysentery. Frequent blood-stained stools from which the Flexner bacillus was isolated, had been present with pyrexia and loss of weight was rapid. On the fifth day the temperature had become more elevated, vomiting began and blood-stained stools increased in numbers. The baby had looked extremely ill, the eyes sunken, skin inelastic and dehydrated. A week later the right ear drum had become red and was incised and a little pus was evacuated, at that time the left ear drum did not appear pathological. Three days later, however, this drum had ruptured and within three days, fever, diarrhœa and vomiting ceased and weight began steadily to increase. In this case the infection of the respiratory tract appeared to be responsible for the more serious symptoms (which rapidly disappeared when tension was relieved), although there was actually an intestinal infection present.

Experience in these fields had led them at the Babies' Hospital to examine ears constantly and in some cases they had experienced difficulty in coming to a decision as to the condition existing behind the tympanum. A pink and bulging membrane was of course pathognomonic and a sagging posterior segment was another sign for which they had learned to look, but there were many cases which gave only too little indication of what lay behind. This led in some cases to unnecessary paracentesis. It had even led to unnecessary mastoid operation.

In this direction they hoped to go much further and to learn by experience when interference was required.

Opening the mastoid in an infant was a simple procedure to an expert, it might be done under local anæsthesia. More infants died from neglect to do the operation than from its effects and the finding of pus in the tympanic cavity was not always a necessary antecedent.

A baby, eight months old, had been transferred to the Children's Hospital from the Babies' Hospital with acute diarrhœa, vomiting and rapid loss of weight and dehydration. There had been no pyrexia and variations of diet had had no effect on the condition. Dr. Matison had operated first on one mastoid and later on the other, both contained pus and when this was evacuated the baby improved and recovered completely.

It was interesting to note in both these cases the result of direct treatment of what had always previously been regarded as a mere complication.

Many more cases could be quoted including fulminating types of so-called gastro-enteritis in which recovery occurred after a mastoid operation. There were also some patients who died.

One case of this type was that of a baby, three months old. The baby was quite well and gaining in weight, when suddenly diarrhœa, vomiting and pyrexia had occurred. In twenty-four hours the appearance was typical, with sunken eyes and fontanelle, dehydrated appearance, inelastic skin. Paracentesis had given some relief, but in a few days he was again extremely ill. A mastoid operation performed under local anæsthesia had caused definite improvement with gradual recovery. A relapse occurred during convalescence due to imperfect drainage.

It was to be remembered that though pyelitis might be present, *otitis media* had to be thought of too, as both might be evidence of a general infection.

There was so much to say on such a subject that restraint was necessary and she would only add that while not neglecting the investigation and treatment of ear conditions in infants, indiscriminate paracentesis might lead to trouble. The operation should be carefully performed with all due precautions when called for and even when such classical signs as tenderness over the mastoid, fever and discharging ears were absent, there might still (in infants) be pus present and the evacuation of this would result in cure.

When Dr. Mayo had an infant in her care who showed the typical face of severe "gastro-enteritis" and no other infection was discoverable, she asked to have the mastoid opened and she felt sure that it was a procedure that would in many cases save life. She had even thought at times that this type of expression could be called the "mastoid facies," but that was probably going too far.

DR. G. H. BURNELL asked why earache from adenoids most frequently came on at night.

DR. R. L. T. GRANT asked if there was any certain way whereby it were possible to tell if a tonsil was infected, for example a tonsil which had crypts full of cheesy *débris et cetera.*

DR. SANGSTER replied that in this type of tonsil the only certain way was microscopical examination of the crypt contents for pus cells *et cetera.*

MEDICO-POLITICAL.

ANNUAL MEETING OF THE DELEGATES OF THE AFFILIATED LOCAL ASSOCIATIONS OF MEMBERS WITH THE COUNCIL OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE annual meeting of the delegates of the local medical associations affiliated with the New South Wales Branch of the British Medical Association together with the Council of the Branch was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on October 2, 1926, DR. R. J. MILLARD, C.M.G., C.B.E., the President, in the chair.

The following delegates were present: Dr. J. F. S. Barnet (Northern District Medical Association), Dr. K. S. M. Brown (Central Western Medical Association), Dr. G. A. Buchanan (Central Southern Medical Association), Dr. O. A. Diethelm (North-Eastern Medical Association), Dr. T. M. Furber (South Sydney Medical Association), Dr. A. M. Gledden (City Medical Association), Dr. W. B. Grant (Balmain District Medical Association), Dr. H. H. Lee (South-Eastern Medical Association), Dr. W. W. Martin (Southern District Medical Association), Dr. A. Muscio (Eastern District Medical Association), Dr. H. F. J. Norrie (Northern Suburbs Medical Association), Dr. H. B. Oxenham (Western Suburbs Medical Association), Dr. J. T. Paton (Western Medical Association), Dr. A. T. Roberts (Central Northern Medical Association), Dr. W. F. Simmons (Illawarra Suburbs Medical Association), Dr. F. G. N. Stephens (Eastern Suburbs Medical Association).

Friendly Society Lodge Practice.

The HONORARY SECRETARY, DR. R. H. TODD, moved on behalf of the Council, that the Friendly Societies' Association should be approached with a request to provide the uniform medical certificates with a butt, so that the medical officers might have a record of certificates issued. He pointed out that at the request of the Council the Friendly Societies' Association had undertaken to supply uniform medical certificate forms. The object was to avoid the necessity of medical officers of lodges having a large number of different books of certificates of various orders and lodges. Books of certificate forms had been issued, but unfortunately the Friendly Societies' Association had found it necessary to economize in paper and printing. The forms were too small, there was not sufficient room for the entry of the necessary details and there was no butt on which the medical officer could make a record.

It was pointed out that previously the lodges in some localities had combined to issue books of uniform certificates which were quite satisfactory, and the hope was

expressed that the Friendly Societies' Association would be able to provide larger certificates printed on better paper with a butt. The motion was carried.

DR. C. H. E. LAWES moved:

> That the Council be requested to instruct the representatives of the New South Wales Branch in the Federal Committee that in the event of a uniform contract practice agreement being established suitable for the Commonwealth such agreement should be on the lines of the approved Common Form of Agreement, New South Wales.

Dr. Lawes pointed out that the Queensland Branch had brought the matter before the Federal Committee and had suggested that a uniform agreement should be adopted in all parts of Australia (see THE MEDICAL JOURNAL OF AUSTRALIA, September 18, 1926, page 398). The Queensland Branch had referred to the expression of opinion in THE MEDICAL JOURNAL OF AUSTRALIA to the following effect: "Sooner or later it will be necessary to standardize the terms and conditions throughout the Commonwealth and when this is done, it will be necessary to insist on the conditions contained in the New South Wales Common Form of Agreement which is undoubtedly the fairest and most equitable of the six" (see THE MEDICAL JOURNAL OF AUSTRALIA, October 25, 1924, page 448). Dr. Lawes pointed out that the New South Wales Branch agreement did not give rise to disputes and that everything needed had been embodied in it. He considered that it would be advantageous to have a Commonwealth agreement.

The motion met with the approval of the members and was carried without dissention.

Workers' Compensation Act.

DR. G. A. BUCHANAN moved on behalf of the Central Southern Medical Association that the meeting support the resolution carried at the meeting of the New South Wales Branch on September 16, 1926, as follows:

> That in view of the fact that the *Workers' Compensation Act* 1926, makes provision for medical, surgical, nursing and other services to the extent of £50 for all cases of accident and illness covered by the Act and that employers have paid premiums based on this liability, this meeting is of the opinion that these cases are not except in exceptional circumstances eligible for admission as in or out patients at public hospitals and should be treated as private patients either in their homes or in private hospitals and that the same principle should apply to lodge patients who come under the operations of the Act.

Dr. Buchanan pointed out that workers in the employment of the New South Wales Railways when injured were sent to the district hospitals. These injured workers were obtaining gratuitous medical attendance at the hospitals, notwithsanding the fact that the Act provided for pecuniary compensation which was to cover the cost of medical attendance.

It was pointed out that the railway service claimed to be unaffected by the provisions of the *Workers' Compensation Act*. According to a section of the *Railways Act* the employees could elect to receive either full pay during incapacity or sick pay and medical benefits. The employees had chosen to receive full pay which meant that they were not provided with medical attendance, although it was usual for the Department to pay for the first attendance. The *Workers' Compensation Act*, however, included the Railway Commissioners in the definition of employers.

Dr. Buchanan's motion was seconded by Dr. H. B. Oxenham and was carried.

DR. J. T. PATON on behalf of the Western Medical Association moved as follows:

> That the following proposal for the insertion of a proviso in Clause 5 of the Common Form of Agreement between medical officer and friendly society lodge (Clause 5) after the words "Court of Law" the following words be inserted, namely: "or under circumstances entitling the member to compensation (including medical benefits) under the *Workers' Compensation Act*, 1926, or any act or acts altering or amending the same"; so that the clause would read:
>
> (5) The medical officer shall give medical attendance to any member . . . . . except where otherwise provided; provided that such illness or injury be not occasioned by . . . . . or by the negligent act or omission of any person in respect of whom such member is entitled to claim compensation or damages in a court of law or under circumstances entitling the member to compensation (including medical benefits) under the *Workers' Compensation Act*, 1926, or any other act or acts altering or amending the same.

The motion was seconded by DR. G. A. BUCHANAN.

DR. R. J. MILLARD informed the delegates that a conference had been held by the Council with representatives of the Friendly Societies' Association and that at this conference the proposal to amend the Common Form of Agreement had been accepted. The representatives of the Friendly Societies' Association were anxious to remove all ambiguity from the amendments.

The motion was carried.

DR. J. S. F. BARNET speaking on behalf of the Northern District Medical Association moved:

> That this meeting is of the opinion that cases coming under the *Workers' Compensation Act*, 1926, and being admitted to public wards of public hospitals, shall be charged the ordinary private fees that prevail in the district.

The motion was seconded by DR. T. M. FURBER of the South Sydney Medical Association.

Reference was again made to the practice of the Government Insurance Office in endeavouring to induce injured workers to seek treatment at the public hospitals. The hospitals were being urged to accept these patients and a tentative arrangement had been made whereby the sum of ten shillings a day was paid for in-patients and the sum of five shillings per patient was paid for out-patient treatment. It was assumed that these charges covered the cost of maintenance and other hospital expenses, but there were no allowances for the services of the honorary medical officers.

Attention was called to the arrangement that had been made in England in regard to the matter of recognition of the services of the visiting medical officers in voluntary hospitals. It had been determined that when the board of management of a voluntary hospital entered into some financial arrangement with a public authority, an employer of labour, an approved society or an insurance company, the payment made in respect of the patients should be regarded as covering the cost of maintenance and of medical treatment and that that portion of the fund which was allocated to medical treatment, should be passed into a fund which could be used by the visiting staffs at their discretion. The scheme had been discussed at the Annual Representative Meeting in 1924 and 1925 and the details had been published in the last issue of the "Annual Handbook."

Reference was also made to the action taken by the members of the honorary staff of the Royal Prince Alfred, the Sydney and the Royal North Shore Hospitals. A meeting of the members of the staffs of the hospitals had considered the question of the attitude to be adopted by them in regard to injured workers at the hospitals. They had approached the Council of the Branch for guidance and the Council had drawn up a memorandum on the subject. At a further meeting of the members of the staffs of the hospitals the following resolutions were passed:

> This meeting of the combined honorary medical staffs of the Sydney, Royal Prince Alfred and Royal North Shore Hospitals, held on August 5, 1926, is of the opinion:
>
> (i.) That honorary medical service was instituted to provide free medical attention for the indigent sick, and they are still anxious to maintain this honourable tradition;

(ii.) Inasmuch as at present there is insufficient access in the above hospitals for the indigent, it seems wrong to undertake the treatment of individuals insured under the *Workers' Compensation Act* whose attendance at the hospital will definitely exclude the poor;

(iii.) Persons insured under the *Workers' Compensation Act* should not be admitted nor treated at the above mentioned hospitals, except they be urgent cases. For these urgent cases full payment shall be made for both hospital expenses and medical attendance; the fees for medical attendance shall be allotted to a fund controlled by the honorary medical staff of each hospital.

The opinion was expressed by several members that insured injured workers should not be admitted to public hospitals. Apart from the fact that the honorary medical officers should not be exploited by the insurance companies, the objection was raised to the use of the public hospital by persons whose incomes could be as high as £750 a year and for whom provision was made for compensation in the case of injury. The admission of these people to the metropolitan hospitals would have the effect of crowding out the indigent sick for whom the public hospitals existed. In the country there was usually sufficient accommodation, but it was argued that the principle was the same and that the medical profession should not be required to give gratuitous service under these circumstances. It was feared that the boards of management of some of the subsidized hospitals might be willing to enter into an arrangements with the Government for the provision of treatment of injured workers without any consideration for the position of the honorary medical staff.

DR. MILLARD, the President, called the attention of the meeting to the resolutions that had been adopted by the Branch on September 16, 1926, at the instigation of Dr. Arthur (see THE MEDICAL JOURNAL OF AUSTRALIA, October 2, 1926, pages 460-463). He pointed out that it was sometimes impossible to determine at the time of admission whether the patient would or would not be entitled to compensation under the Act. In these circumstances it would be very difficult to exclude the patient from public hospitals.

A further objection to the systematic use of hospitals for insured injured workers was discussed. It was that the patient's ordinary medical attendant would not be able to carry out the treatment. Dr. Lawes thought that if the employer and the insurer discovered that it cost as much to obtain treatment in the public hospitals, they would not rush the patient into these institutions, but would sanction the use of private hospitals. At first no doubt the medical practitioners in private practice would suffer, but later this injustice would disappear.

The matter was fully discussed from the point of view of colliery districts. The motion was then put to the meeting and was carried.

DR. J. S. F. BARNET also moved:

That when insurance companies or medical referees asked for reports on cases, the reports should be accompanied by an account for one guinea.

Dr. Barnet stated that his association was anxious to obtain an opinion from those present in regard to the expediency of charging one guinea for these reports. In the course of a discussion it transpired that the object of the Northern District Medical Association was to secure adequate remuneration for progress reports which might be issued to the insurance companies or medical referees with the consent of the patient. In order to make this quite clear and to remove the possible interpretation that the meeting advocated the furnishing of reports and certificates to insurance companies, the words "if furnished" were inserted into the motion.

The motion was seconded by DR. T. M. FURBER and was carried.

In the last place DR. J. S. F. BARNET moved:

That there should be no interference whatever between the patient and his choice of medical attendant.

It was pointed out that in accordance with Section 10 of the Act the employer was required to provide medical treatment and that if he failed to do so, the worker could obtain treatment at his expense. It was noted, however, that the section proceeded: "But he shall not be entitled to recover any amount expended by him for such treatment or services unless he has requested the employer to furnish the same and the employer has refused or neglected to do so."

A letter was read from the New South Wales Government Insurance Office in which it was stated that the Insurance Office would not accept financial responsibility for the cost of medical attendance unless the employer had been asked to provide treatment and had refused. Under these circumstances Dr. Barnet begged leave to withdraw his motion.

DR. C. H. E. LAWES submitted to the meeting the schedule of fees and charges for treatment of injured workers. He pointed out that this schedule had been drawn up for submission to the Commission. It had received the approval of the Council of the Branch and a copy had been sent to all members of the Branch. The only criticism that had been made was that the fees were held to be too low. At the time the schedule had been drawn up the Council intimated to the Commission that it was prepared to appoint a committee to advise the Chief Medical Referee in cases of prolonged treatment when it was thought there was excessive attendance on the part of the medical attendant. After a short discussion the meeting resolved to endorse the schedule of fees.

DR. T. W. LIPSCOMB moved:

That the position of medical attendance of patients claimed to be injured workers in regard to the recovery of fees be discussed.

It had been ascertained that the Government Insurance Office and other insurance companies did not recognize claims for payment made by medical practitioners. They demanded that the injured worker should produce a receipt for money paid to the medical practitioner and that the employment of the medical practitioner should be authorized either by the employer or by the insurer. It was obvious that if an injured worker in moderate circumstances were treated by a private practitioner at ordinary fees, the worker might be unable to pay and could therefore not produce the required receipt. It was obviously contemplated that medical attendance would be given at ordinary private fees since Clause 10 (Subclause 5) read as follows:

(5) The fees and charges for the treatment shall be limited to such charges as prevail in the same community for similar treatment of injured persons.

Dr. Lipscomb cited an instance in which the Government Insurance Office had refused to admit liability in this connexion.

DR. H. F. J. NORRIE, of the Northern Suburbs Medical Association, seconded the motion and expressed the opinion that a test case would be needed before the matter could be finally decided. He was of the opinion that the public regarded the medical profession as a grasping body, whereas the insurance people looked upon the profession as a body that could be easily exploited.

DR. W. F. SIMMONS, of the Illawarra Suburbs Medical Association, did not think that the Government Insurance Office was alone in endeavouring to evade payment of medical practitioners. He related the case of a man who was injured by a piece of steel penetrating his finger. The fragment was extracted, but cellulitis ensued. The man was advised to go to his family doctor who attended him for four weeks. The medical officer of the company at the end of that time recommended that the man should remain off duty for a further fortnight. An account of three guineas for the whole attendance was sent to the insurance company. The company, however, was not prepared to pay more than ten shillings and sixpence. This fee was refused and the matter was still in abeyance.

A proposal was made that the experience of the medical profession should be collected and that the information

should be brought to the notice of the Minister. A resolution to this effect was adopted.

B.M.A. Lectures.

DR. F. BROWN CRAIG, the Honorary Medical Secretary, brought up a motion for the purpose of obtaining suggestions in regard to the best means of giving effect to the scheme of "British Medical Association" lectures. He explained that the Branch Council had instituted a scheme for the delivery of lectures of a distinctive character at meetings of the local associations of members outside the metropolitan area. The scheme was somewhat similar to that of the British Medical Association. A list of lecturers selected from the senior staffs of the teaching hospitals had been drawn up and a list of suggested subjects had also been provided. The sum of £100 had been made available. It was obvious that this amount was insufficient to enable the Council to supply more than one lecture for each local association in any one year.

DR. J. T. PATON speaking on behalf of the Western Medical Association seconded the motion. He thought that the arrangements were very excellent and represented a distinct advance on the old method whereby each association invited a metropolitan practitioner from time to time to deliver an address. Other speakers endorsed the opinion that the lectures had been much appreciated. The proposal was made that the local association should contribute to the cost of providing these lectures. It was announced that steps were being taken with a view to the publication in book form of the "B.M.A." lectures delivered each year. The motion was carried.

Post-Graduate Courses.

DR. F. BROWN CRAIG also brought up for discussion the question of the arrangement for the post-graduate courses. He pointed out that when these courses had first been started, they had not been very satisfactory largely owing to the fact that the arrangements had not been in the hands of the medical profession but had been undertaken by the University Extension Board. The last course, however, had been planned on a different basis. The Branch had taken the full responsibility and had held a successful course at the Royal Hospital for Women and the Crown Street Women's Hospital. Residence under one roof had been arranged for the visiting practitioners attending the course and this had proved to be very satisfactory. Such an arrangement had much to recommend it. The next course would be devoted to diseases of children and the feeding of infants and it was hoped that arrangements could be made for the visiting practitioners to reside during the time at St. Andrew's College. They were hoping for a large attendance.

After a short discussion the motion was seconded by DR. MUSCIO and was carried.

Badges for Doctors' Motor Cars.

DR. R. H. TODD moved:

> That the proposal be discussed for the adoption of a distinguishing badge for use by medical practitioners on their motor cars when seeking priority at punt crossings or elsewhere, for the purpose of determining whether any distinguishing mark is necessary and if so what form it should take.

He explained that as far as Sydney was concerned the regulation of the traffic including the parking of cars was in the control of the Chief Secretary's office and was not a function of the City Council. A regulation existed according to which medical practitioners hastening on a professional call were given priority over other motor car users. The Council had approached the department on the subject of the parking of doctors' cars and on the advisability of having a distinguishing mark on these cars so that the police on point duty might recognize that the medical practitioner was on an urgent professional duty. Great difficulty had been experienced in devising a suitable badge. Medical practitioners had complained that when they were allowed to pass a long stream of cars in the approach to the North Shore punt, they were frequently subjected to a chorus of hoots from the drivers of waiting cars. The question was raised whether there was any actual necessity for a distinguishing sign.

DR. H. F. J. NORRIE referred to the arrangement in vogue in Brisbane. A Maltese cross was affixed both in front and behind doctors' cars and had proved a great success. Similarly in America the use of a distinguishing badge had proved a boon to medical practitioners. He thought that the risk of abuse was negligible. Formerly the Sydney Ferries Limited had granted medical practitioners priority as a matter of courtesy. More recently the police had extended the same privilege as a right. It was, however, not infrequent that a strange constable failed to recognize that a car was being driven by a medical practitioner on urgent business. He thought that the Brisbane method should be adopted and that the badges should be issued by the Police Department for an annual payment. The badge should be under the control of the police and if any individual practitioner abused the privilege, his badge could be withdrawn.

The motion was seconded by DR. F. G. N. STEPHENS and carried.

Vote of Sympathy.

On the motion of DR. G. A. BUCHANAN an expression of sympathy was passed with Dr. J. English, of Yass, whose state of health was causing his friends grave anxiety. Dr. English had taken the keenest interest in the work of the meeting in past years and had expressed his regret that he had been unable to attend at that meeting or the meeting of 1925.

The motion was seconded by DR. T. W. LIPSCOMB and was carried.

Agency Business.

DR. W. F. SIMMONS moved on behalf of the Illawarra Suburbs Medical Association:

> That the New South Wales Branch of the British Medical Association officially undertake an agency business (including insurance, medical agency and accountancy) and that the profits accruing be paid into the fund of the New South Wales Medical Benevolent Association.

Dr. Simmons argued in favour of the work of medical agency and insurance being undertaken by the Branch.

In the course of the discussion it was pointed out that the Federal Committee had considered the proposal of the formation of a company to undertake all forms of insurance other than life insurance for the medical profession throughout Australia. A memorandum and articles of association had been drawn up, but it had subsequently been ascertained that it would be difficult if not impossible for a company registered in one State to carry on business in other States. The Victorian Branch had proceeded to form its own company. Reference was also made to the Medical Insurance Agency which had been founded in England in 1907 and which was administered by a committee of management under the chairmanship of Sir Humphrey Rolleston with Dr. Alfred Cox, Sir Dawson Williams, Sir Squire Sprigge, Dr. J. A. Macdonald and several other active members of the British Medical Association as members. The agency did not undertake any immediate insurance work, but placed the policies with various established insurance companies. It had been stated that over £16,000 had been saved to the profession by rebates in reduction of the amount of premiums and that over £12,500 had been handed over out of profits to the benevolent funds of the profession.

The members agreed that it would be beneficial if the Branch proceeded with this matter.

Votes of Thanks.

Before the meeting concluded DR. R. J. MILLARD, as President, thanked the delegates for their attendance and DR. G. A. BUCHANAN proposed a vote of thanks to Dr. Millard for the manner in which he had conducted the meeting and for his hospitality in entertaining the delegates at lunch. The motion was carried with acclamation.

Congress Notes.

PROGRAMMES OF SECTIONS.

THE following information concerning the programme of the work of Sections has been received from the Executive Committee of the second session of the Australasian Medical Congress (British Medical Association), Dunedin, 1927.

SECTION III.—GYNÆCOLOGY AND OBSTETRICS.

President: Dr. J. W. Dunbar Hooper.

Vice-Presidents: Professor J. C. Windeyer, Dr. D. P. Clement, Dr. W. A. Verco, Dr. R. Marshall Allan, Professor H. Jellett.

Honorary Secretary: Dr. C. North.

Friday, February 4, 1927.

Afternoon.—President's Address: "The Present Position of Obstetrics and Gynæcology."

"Prolapse," by Dr. A. Norman McArthur.

Monday, February 7, 1927.

Morning.—"Problems of Cæsarean Section," discussion to be opened by Dr. A. M. Wilson and Professor H. Jellett, followed by Dr. W. A. Verco and Dr. R. Marshall Allan.

Afternoon.—Problems of Cæsarean Section," discussion continued.

"The Trial Labour," by Professor J. C. Windeyer.

"Pubiotomy," by Dr. A. Bonar Lindsay.

Tuesday, February 8, 1927.

Morning.—Combined meeting with Section IX.: "The Prevention of Disease in Infancy and Childhood." Speakers: Dr. R. Marshall Allan, Dr. A. M. Wilson.

Afternoon.—"Rubin's Apparatus and its Use," by Dr. H. Jacobs.

Paper on venereal disease work by Dr. Constance Ellis.

Wednesday, February 9, 1927.

Morning.—Combined meeting of all Sections: "Cancer."

Afternoon.—"*Inertia Uteri*," by Dr. Mary De Garis.

SECTION VIII.—NEUROLOGY.

President: Dr. Oliver Latham.

Vice-Presidents: Dr. W. Ernest Jones, Dr. D. M. McWhae, Professor J. P. Lowson, Dr. P. Chisholm.

Honorary Secretary: Dr. S. A. Moore.

This Section will meet in the afternoons only, except on February 9, 1927.

Friday, February 4, 1927.

Afternoon.—President's Address: "The Place of Pathology in Mental Disease."

"The Physical Bases for Mental Disorder."

"Endocrine Disturbances and Sepsis," by Dr. G. P. U. Prior, Dr. J. Bostock, Dr. H M. North, Dr. S. J. Minogue.

Monday, February 7, 1927.

Afternoon.—"The Social Aspect of Mental Disorder."

"The Education of Mental Defectives and the After-Care of Mental Defectives and Mental Cases," by Dr. W. Ernest Jones, followed by Dr. O. Latham, Dr. R. Noble, Dr. S. A. Moore.

"University Teaching of Psychiatry," by Dr. C. A. Hogg, followed by Dr. O. Latham, Dr. W. Carmalt Jones.

Tuesday, February 8, 1927.

Afternoon.—"The Voluntary Patient," by Dr. W. Ernest Jones, followed by Dr. R. Noble, Dr. Marshall Macdonald.

"Delinquency," by Dr. S. J. Minogue, Dr. Harvey Sutton, Dr. Paul Dane.

Wednesday, February 9, 1927.

Morning (till 11.30 a.m.)—Combined meeting with Sections I., II. and XI.: "Spastic Paralysis." Speaker, Dr. S. V. Sewell.

11.30 a.m.—Combined meeting of all Sections: "Cancer."

Afternoon.—"Sequelæ of Lethargic Encephalitis," by Dr. H. F. Maudsley, followed by Dr. Marshall Macdonald.

"Localization of Spinal Tumours," by Dr. J. F. Mackeddie, followed by Dr. J. R. White.

"Cinema Demonstrations of the Teaching of Neurology," by Dr. J. F. Mackeddie.

CORRIGENDA.

OUR attention has been directed to a clerical error that has been made throughout the programme of the second session of Congress, published in our issue of October 23, 1926, pages 569 and 570. The sections will be in session on Friday, February 4, Monday, February 7, Tuesday, February 8 and Wednesday, February 9, 1927. In the programme referred to the dates have been confused, Monday being the fourth and not the third day of the month.

On pages 606 and 607 of last week's issue the legends of Figures IX. and XI. have been interchanged. Figure IX. depicts Lake Kanieri and Figure XI. is a picture of two men fishing for trout in the Waiau River.

EXPEDITION TO LORD HOWE ISLAND.

MR. E. F. POLLOCK, a member of the Royal Australian Ornithologists' Union, has a few vacancies in a party that he is to conduct to Lord Howe Island. He has arranged to take about twenty-four scientists to one of the most attractive islands in the world, to show them some exquisite scenery, to afford them first class sport and to enable them to study the habits of many kinds of sea birds. Lord Howe Island is approximately four hundred and twenty miles from Sydney. The steamer will leave Sydney on November 17, 1927, and it is proposed to return by the next steamer four or five weeks later. The party will be housed in comfortable tents, two in each. There will be no ladies. The catering arrangements are excellent. A sports committee will be elected to arrange matches and tournaments with the islanders and among the members of the party. The members will pay the sum of thirty pounds for tour of four weeks. The only extras will be small amounts for the hire of boats belonging to islanders and ten shillings for deck cabins if desired. It appears to us that no more ideal holiday could be imagined for a man who is interested in the study of botany, ornithology or zoology, especially if he is a lover of the Pacific and its wondrous islands. Applications to join the party should be made at once to Mr. E. F. Pollock, Te Whare, Carrington Avenue, Strathfield, near Sydney.

Correspondence.

MEDICAL ETHICS.

SIR: With reference to a leading article entitled "Medical Ethics," which appeared in your issue of September 25, 1926, we would like to make this comment for publication in the journal:

One of our members, Dr. B., desired an expression of opinion as to whether it was considered a breach of medical ethics for a medical man, Dr. C., to take over a case which he (Dr. B.) had been attending on behalf of a colleague, Dr. A., without communicating with him (Dr. B.).

Before expressing an opinion the Council asked whether Dr. C. was aware that Dr. B. had been attending the patient. A reply was received to the effect that Dr. B. was not in a position to say whether Dr. C. was aware that he had been attending the patient, but that from the

condition of the patient Dr. C. could not fail to realize that somebody had been looking after the case. It was also mentioned that the patient had been advised by Dr. B. to go to a certain public hospital and he had made arrangements for the ambulance to convey him thither. Later Dr. B. found that another medical man, Dr. C., was looking after the patient in a private hospital. Dr. B. desired to know whether it was considered that Dr. C. was merely discourteous in that he did not communicate with him (Dr. B.) or unethical in taking over his colleague's (Dr. A.) case.

A reply was sent by the Council to the effect that opinion is divided as to whether the practitioner taking over the case should communicate with the dismissed practitioner or whether the patient's word should be taken that the practitioner is dismissed and that opinion is also divided as to whether sending a patient to a public hospital is tantamount to relinquishing the case.

A further letter was received from Dr. B. to the effect that he would like a definite ruling on the question as to whether sending a patient to a public hospital is tantamount to relinquishing the case and wished to know what would be the next authority on ethics.

It was then resolved to inquire whether Dr. B. would approve of the matter being referred to the Federal Committee, to which he agreed and a copy of the whole of the correspondence was submitted to the Federal Committee.

As the Federal Committee is the only body in Australia, as far as we are aware, that has issued a code of medical ethics, the Council thought it was quite in order in applying to the Federal Committee for a ruling on the matter, otherwise who is to adjudicate?

Yours, etc.,

E. S. MEYERS,

Honorary Secretary.

For the Council of the Queensland Branch of the British Medical Association.

B.M.A. Building, Adelaide Street,
Brisbane, October 11, 1926.

Obituary.

CHARLES SNODGRASS RYAN.

WE regret to announce the death of Sir Charles Snodgrass Ryan which occurred at sea on R.M.S. *Otranto* on October 23, 1926.

OSBORNE HENRY REDDALL.

WE announce with regret the death of Dr. Osborne Henry Reddall which occurred at Rose Bay, Sydney, on November 1, 1926.

Medical Appointments.

Dr. Charles Victor Watson Brown (B.M.A.) has been appointed Government Medical Officer at Longreach, Queensland.

* * * *

Dr. Herbert Ian Gibb (B.M.A.) has been appointed Public Vaccinator at Trentham, Victoria.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants *locum tenentes* sought, etc., see "Advertiser," page xxiv.

DEPARTMENT OF PUBLIC INSTRUCTION, NEW SOUTH WALES: Medical Officer.

RAILWAY CONSTRUCTION WORKS, NORTHERN TERRITORY: Medical Officer.

SAINT VINCENT'S HOSPITAL, SYDNEY: Honorary Radiologist.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C. 1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND: Honorary Secretary B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Ceduna, Wudinna (Central Eyre's Peninsula), Murat Bay and other West Coast of South Australia Districts.
WESTERN AUSTRALIAN: Honorary Secretary, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Nov. 9.—Tasmanian Branch, B.M.A.: Branch.
Nov. 9.—New South Wales Branch, B.M.A.: Ethics Committee.
Nov. 9.—Section of Medicine, New South Wales Branch, B.M.A.
Nov. 10.—Victorian Branch, B.M.A.: Branch; last date of nominations for Council.
Nov. 11.—Victorian Branch, B.M.A.: Council.
Nov. 11.—New South Wales Branch, B.M.A.: Clinical Meeting.
Nov. 12.—Queensland Branch, B.M.A.: Council.
Nov. 12.—Victorian Branch, B.M.A.: Annual Conference.
Nov. 13.—Victorian Branch, B.M.A.: Annual Conference.
Nov. 15.—New South Wales Branch, B.M.A.: Organization and Science Committee.
Nov. 16.—Tasmanian Branch, B.M.A.: Council.
Nov. 16.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
Nov. 17.—Western Australian Branch, B.M.A.: Branch.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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